HOLDEN COMMODORE

Important operating safety and maintenance instructions

HOLDEN GMH

OWNER MANUAL

SEDAN & WAGON

A WORD TO COMMODORE OWNERS

This manual has been prepared to acquaint you with the operation and maintenance of your vehicle, and to provide important safety information. We urge you to read this publication carefully and follow its recommendations to help assure enjoyable and trouble-free operation of your vehicle. When it comes to servicing remember that a GMH Dealer has the trained personnel, the specialized equipment and the interest to assist you with service needs.

Return to a GMH Dealer for Guardian Maintenance Service and any other assistance you may require.

To assist Dealers in handling your needs, General Motors-Holden's maintains Zone Offices in each mainland State capital. Should you have a problem that cannot be handled through normal channels, follow the procedure presented in this manual under the heading, "Owner Relations". We would like to take this opportunity to thank you for choosing a General Motors-Holden's product—and assure you of our continuing interest in your vehicle's operation and your satisfaction

GENERAL MOTORS-HOLDEN'S

General Motors-Holden's sell their products in many countries. However, in the event that it is intended to take the vehicle outside the area or country where it was purchased, it is advisable to check with a Zone Office of General Motors-Holden's to ascertain whether maintenance service and spare parts will be available in the areas where it is contemplated travelling.

As the policy of General Motors-Holden's is one of continual product improvement, all specifications and equipment are subject to change without notice.

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COMMODORE OWNER MANUAL

This OWNER'S MANUAL should be considered a permanent part of the vehicle, and should remain with the vehicle at time of resale.

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For more detailed information refer to the INDEX at the end of this booklet.

RUNNING IN

YOUR VEHICLE'S INITIAL PERIOD OF OPERATING

You can operate your new vehicle from the beginning without adhering to a formal break-in schedule. However, during the first few hundred kilometres of driving you can, by observing a few simple precautions, add to the future performance and economy of your vehicle.

We recommend speeds be held below 80 km/h during the first 500 kilometres. After this initial period, speeds may be increased gradually but up to 1500 kilometres avoid driving for extended periods at any one speed, either slow or fast. Varying the speed to include some higher speeds within the limits of the law, will promote longer life of parts and better economy of oil and fuel. Never subject your vehicle to full throttle acceleration or high speed unless the engine is thoroughly warm and 3000 kilometres has been covered.

It is also recommended that for the first 500 kilometres, heavy braking should be avoided, except in the case of emergency, since brake misuse during this period could impair future braking efficiency.

If you plan to use your new vehicle for trailer (caravan) hauling see additional information on Page 17.

After starting a cold engine during the cold weather season, do NOT drive with full throttle as long as the engine has not warmed up.

REFER PAGE 87 FOR ADDITIONAL INFORMATION ON

HOW TO IMPROVE YOUR FUEL ECONOMY

SAFE DRIVING HINTS & RECOMMENDATIONS

IMPORTANT

These items are listed as a safety reminder to you the owner. The appropriate section of this manual should be referred to for a more detailed explanation.

CARBON MONOXIDE

Avoid inhaling exhaust gases because they contain carbon monoxide, which is colourless and odourless. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal. (Refer to page 20.)

SEAT BELTS

Various road laws require the wearing of seat belts. It is important that the habit of using these should be developed by yourself and others using the vehicle. (Refer to page 11.)
In the interest of safety seat belts should be checked regularly. Your Dealer will inspect and check the belts for you as part of the normal Guardian Maintenance Service. Never attempt to modify or change the seat belt away from the original specification as this will affect the operation of the belts and reduce their effectiveness, in preventing injury, in an accident.

ANTI-THEFT IGNITION STEERING LOCK

DO NOT turn the ignition switch away from the ON position while the vehicle is in motion as this renders ineffective any power assisted equipment fitted to your vehicle.
Never remove the key while the vehicle is in motion as this will lock the steering of the vehicle and render it inoperative. (Refer to page 21.)

LOOSE ARTICLES

Do not leave a loose load or articles inside the passenger compartment. Stow articles in the luggage compartment and tie down if necessary. (Refer to page 5.)

BRAKE OPERATION

Driving through water may affect brake performance. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead until brake performance returns to normal.

Brake pedal travel should not be obstructed by improper floor mats or other interfering material under the pedal (Refer to page 29.)

POWER ASSISTED BRAKE

Power assisted brakes are fitted:
Do not let the vehicle run down steep grades without the engine running.
Do not coast with the engine switched off. (Refer to page 30.)

TYRE TRACTION

A decrease in driving, cornering, and braking traction occurs when water, snow, ice, gravel, or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions. (Refer to page 81.)

COOLING SYSTEM

If the cooling system is hot, the radiator cap must not be removed quickly—it should be rotated slowly to the first stop, which permits the pressure to release slowly through the overflow pipe. (Refer to page 74.)

PETROL FUMES

Always stop the engine and do not smoke or allow open flames or sparks near the vehicle when refuelling. If petrol fumes are noticed while driving, the cause should be determined and corrected without delay. (Refer to page 108.)

SAFETY FEATURES

INCLUDE—

Lane Changer (part of Turn Signal System).

Seat Belts for all Occupants.

Energy Absorbing Steering Column and Steering Wheel.

Anti-Theft Combined Steering/Ignition Lock.

Tandem Brake Cylinder—Dual Hydraulic Circuits.

Break-away Type Internal Rear Vision Mirror Mounting and Shatter-Resistant Mirror.

Remote Control External Rear Vision Mirror which is Glare Reduced.

Laminated Windshield with a tinted band at top.

Safety Glass Windows.

Glare Reduced—Safety Padded Instrument Panel.

Recessed Instruments and Instrument Panel Controls.

Glare Reduced Instruments and Controls.

Low Profile Window Regulator Handles.

Sun Visors—Energy Absorbing.

Flush Fitting Lift-Up Exterior Door Handles.

Safety Door Locks—Handles Free Wheel.

Rear Door 'Child-Proof' Locks.

Electric Windshield Washers

2-Speed Windshield Wipers with Glare Reduced, Matt Black, Arms and Blades.

Back-Up Lamps.

Fusible Link in Wiring Harness.

4-Speed Heater/Demister Fan.

Brake Failure Warning Light.

Parking Brake Warning Light.

Safety Flanges on Both Sides of Rims of Road Wheels.

Front Seat Head Restraints.

Contoured Skid Header Panel Above Windshield.

Floor Mounted Parking Brake.

Flow Through Ventilation.

Underslung Fuel Tank and External Fuel Lines.

Cigarette Lighter Operates on Ignition or Accessory Positions only.

Child Restraint Anchorages.

Hazard Warning Flashers.

Heated Rear Window.

Rear Window Wash/Wipe System (where fitted)

SECTION—1 BEFORE DRIVING YOUR NEW VEHICLE

SAFETY ASPECTS

BEFORE ENTERING THE VEHICLE

1. See that windows, mirrors and lights are clean.
2. Visually note inflation condition of tyres.
3. Check that area to rear is clear if about to back-up.

BEFORE DRIVING AWAY

1. Be sure you understand your vehicle and how to operate it safely.
2. Be sure all doors are secured and locked.
3. Position seat by adjusting as required. Be sure you could push the brake pedal to floor if necessary.
4. Adjust inside and outside rear vision mirrors if necessary.
5. Fasten seat belts. (Refer Page 11 for Adjustment Procedure.)
6. Check that the warning indicators glow when key is turned to the ON position.
7. Release the parking brake.

HIGHWAY SAFETY DEPENDS ON

1. YOU THE DRIVER
2. THE CONDITION OF YOUR VEHICLE
3. THE TRAFFIC AND ROAD CONDITIONS

. . . **BE SURE YOU UNDERSTAND ALL THREE!**

REMINDER: Proper Operation, Periodic Maintenance and Safety Inspections help provide

- Economical operation of your vehicle
- Safety for you and your passengers
- Dependable transportation

SAFETY MEANS REGULAR INSPECTIONS

The following 10 items need regular and conscientious attention in the interest of safety.

If they require rectification an Authorised GMH Dealer will assist you

BRAKES	EXHAUST SYSTEM
ALL LAMPS	GLASS AREAS
SEAT BELTS	WINDSHIELD WIPERS AND WASHERS
STEERING AND WHEEL ALIGNMENT	REAR VISION MIRRORS
TYRES—CONDITION PRESSURES	HORN

CAUTION: Do not leave a loose load or articles inside the passenger compartment. Stow articles in the luggage compartment and tie down if necessary.
The above action will prevent loose items from becoming dangerous projectiles in the event of a sudden stop or collision.

KEYS AND LOCKS

KEYS

Your vehicle is fitted with a two key locking system which provides a security facility for personal valuables when parking in car parks or similar areas where locking of the vehicle is not permitted.

The Master key (plastic head) is retained and used by the driver at all times and operates all locks on the vehicle.
The Service key (square head) is left with the vehicle when it is parked in those areas described above and only operates the door locks and ignition switch which enables the vehicle to be moved if required but does not allow entry to the instrument panel or luggage compartments.

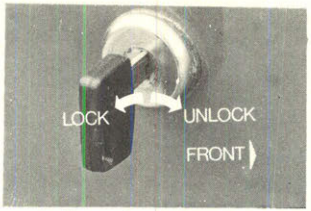
The key code number is stamped on the PLASTIC KEY HEAD. Before placing the key on your key ring, record the code number and place it in a safe place so that if the key is lost duplicates can be ordered from any GMH Dealer by quoting the key code number.

NOTE: During cold weather, moisture may freeze in the door locks. In that case, heat the key with a match or pocket lighter and insert it several times in the cylinder until the lock is free.

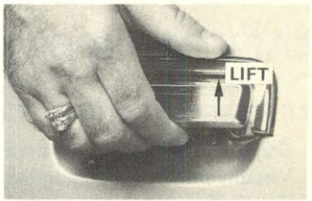
OPENING WITH KEY

Both front doors can be unlocked with the key from the outside by turning the top of the key towards the front of the vehicle, before lifting the finger bar to open the door.

DOOR LOCK OPERATION



Exterior Lock



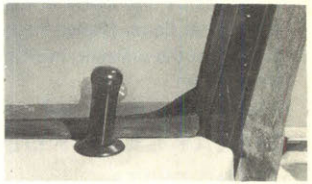
Exterior Handle

OPENING WITH HANDLE

All doors are fitted with safety flush fitting handles with a vertical lift to actuate the door locking mechanism, which will free wheel if the internal locking button is still depressed.

LOCKING FROM THE INSIDE

In the interest of safety, all doors incorporate a free wheeling lock mechanism, prohibiting the doors being opened from the outside or inside unless the locking button is first raised.



LOCKING FROM THE OUTSIDE

Your vehicle is equipped with a most advanced door lock mechanism, which allows closing of the doors without exertion of force. Therefore, do not slam doors nor apply any pressure on the glass. All doors can be locked from the outside by pressing down the inside locking button while the door is open, then shutting the door.

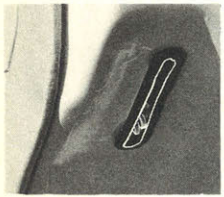
ELECTRIC DOOR LOCK

The Electric Lock System incorporates a solenoid in each rear door and the passenger side front door.

All doors lock and unlock simultaneously when the drivers door is locked or unlocked either with the inside locking switch or the key from outside.

All door locks may be operated manually in the conventional manner. The system has an overload safety control which may render it unoperational. This system requires re-setting after approximately 3 minutes by pressing the red button under the instrument panel on the right hand side of the steering column.

REAR DOOR 'CHILD-PROOF' LOCK



Both rear doors can be 'child-proof' locked by closing the doors with 'child-proof' lock lever raised in the lock position. The doors cannot be opened from the inside regardless of the locking button position.

To unlock the 'child-proof' lock, open the door from outside and lower the lever to the free position. The door will then operate normally.

COMPARTMENT LOCK OPERATION

LUGGAGE COMPARTMENT LOCK

Insert the key and rotate clockwise to unlock. The lid will spring open to its fullest extent for the stowing of luggage.

To shut, simply lower the lid to a position a small distance above the closed position, then quickly and firmly push downwards to engage the lock.

Ensure that no articles are stowed directly in the path of the closing lid, to prevent damage to either the lid or the articles or both.

REMINDER: Do not leave the key inside the luggage compartment or in the lock.

ELECTROMAGNETIC LUGGAGE COMPARTMENT LOCK RELEASE (where fitted)

In addition to the mechanical trunk lock release, the trunk lid may be provided with an electromagnetic release system.

With ignition turned on, the trunk lock may be released by depressing the push button switch located in the Instrument Panel Compartment.

STATION WAGON TAILGATE

To unlock, insert the key and rotate anti-clockwise then withdraw the key. To open, depress the button which will allow the tailgate to open. Gas struts will automatically lift the gate to the fully open position. To close, simply lower the tailgate and close. To lock, insert the key and rotate clockwise.

CAUTION: For safety always lock the tailgate after closing. Ensure that no articles are stowed in the path of the closing tailgate to prevent damage to either the lid or the articles.

CAUTION: To prevent entry of dangerous exhaust fumes into the passenger compartment, the trunk should basically be closed during vehicle operation. However, if it is at all necessary to leave the lid open while transporting bulky cargo, all windows must be closed to avoid vacuum built-up. Open fresh air heater vents and switch, if necessary, to a higher blower speed.

INSTRUMENT PANEL COMPARTMENT LOCK

To lock, insert the key, rotate clockwise one half of a turn and then withdraw.

To unlock, insert the key and rotate anti-clockwise one half of a turn.

To open, squeeze the two slides of the catch together and pull towards you. To close, push lid firmly back into place. This will engage the catch.

FUEL FILLER LOCKING CAP

Where a locking type fuel filler cap is fitted, only the master key can be used.

REAR VISION MIRRORS

INTERNAL REAR VISION MIRROR

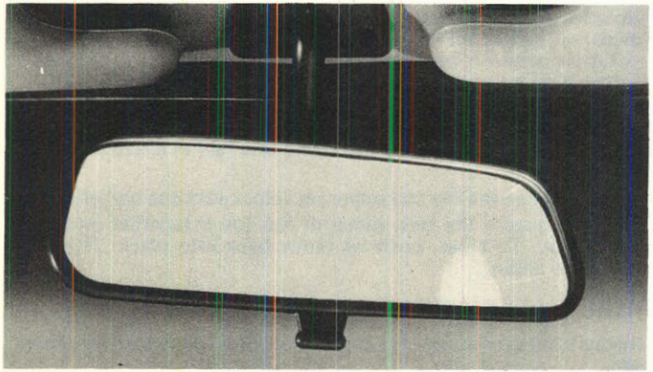
STANDARD TYPE

The internal rear vision mirror is shatter-resistant and is mounted on the safety type windshield skid header panel. The design incorporates a break-away feature which can allow the mirror to be knocked out as a result of accidental impact, thus lowering the chance of injury.

ANTI-GLARE TYPE

Where the prismatic type anti-glare mirror is fitted, a control lever on the lower edge of the mirror enables an anti-glare reflector to be used during night driving, thus reducing headlamp glare from following vehicles.

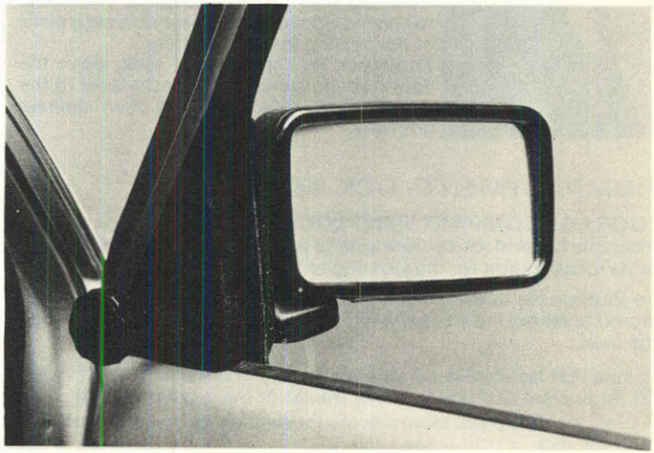
During normal daylight operation, the lever should be set forward. During night time operation, in order to reduce the glare of the headlamps from following vehicles, move the lever rearward.



EXTERNAL REAR VISION MIRROR

This mirror for the driver's door is controlled by the stalk that is located on the inside of the driver's door. On some models a like mirror is fitted to the passengers door and is similarly controlled.

The angle of the mirror can be controlled by moving the stalk. The change of angle of the mirror is in the same direction as the control movement. When selecting the most suitable angle for the mirror, ensure that the driver's head is in the normal position for driving then adjust the mirror angle to suit.



FRONT SEAT ADJUSTMENT

BUCKET SEAT

FRONT-REAR SEAT CONTROL

Each bucket seat has a forward and rearward adjustment control. The adjustment control lever is located at the lower front of the seat. Rotate the lever upwards to the right to unlock the adjustment catch. Try to move the seat back and forth after adjusting to check that the catch is fully engaged.

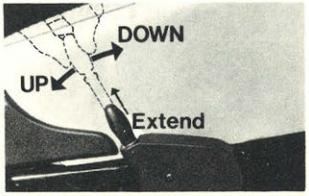
RECLINING BACK CONTROL

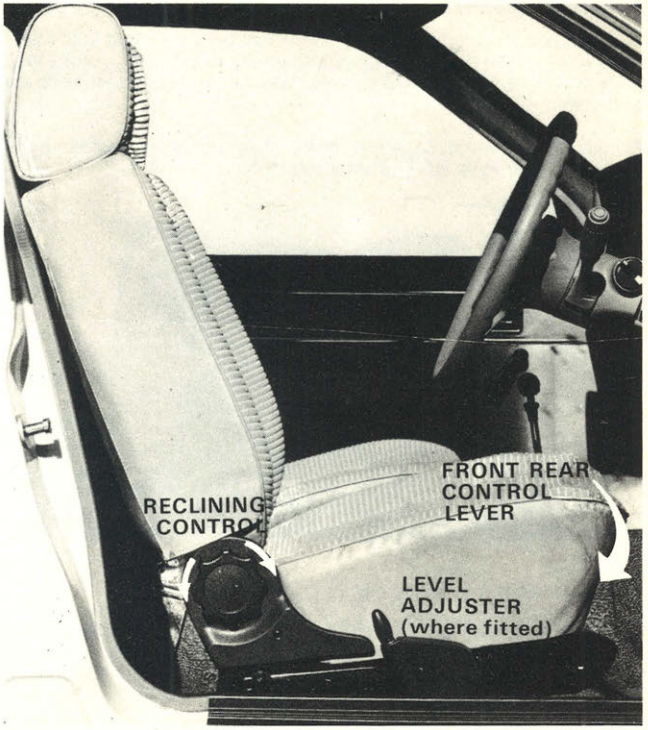
The reclining mechanism is controlled by a large toothed wheel on the outer side of the seat, located at the bottom of the seat back. By turning the wheel, the reclining position of the seat can be changed through a large angle, as desired.
The seat back will move in the same direction as the top of the wheel.

CAUTION: To avoid reducing the effectiveness of seat belts it is recommended that reclining seats be used in no more than a semi-reclined position when the vehicle is in motion. The fully reclined position should only be used when the vehicle is stationary.

SEAT LEVEL ADJUSTMENT (where fitted)

The driver's seat level is adjustable by extending the telescopic lever on the seat outer side and then moving it as indicated in the illustration.

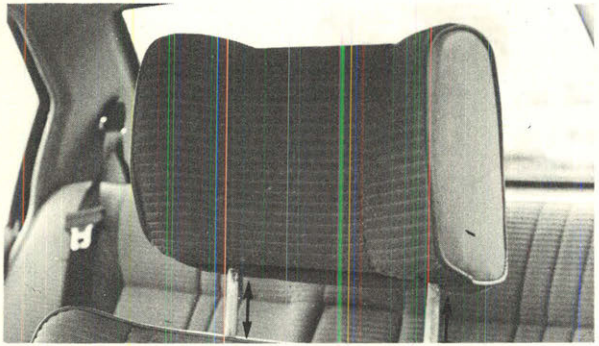




HEAD-RESTRAINT

This safety feature is not intended to be used as a headrest. It is solely for the reduction of possible injury that may result from a whip-lash neck movement following a vehicle collision. The head restraints are adjustable in height.

Adjust the restraint to have the centre line as close as possible to the height of your eyes NOT of your neck.



FRONT SEAT REPOSITIONING

Certain people, due to their height, may consider it advisable to have the front seat repositioned. It is possible to have the seat moved rearward on the seat mountings, giving increased leg room. It is suggested that should the necessity arise, this matter be discussed with a GMH Dealer.

WINDOW CONTROLS

MANUALLY OPERATED

All door windows are lowered or raised by use of the low profile window regulator handles. These are fitted with safety designed PVC knobs.

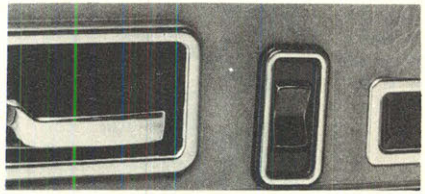
POWER OPERATED

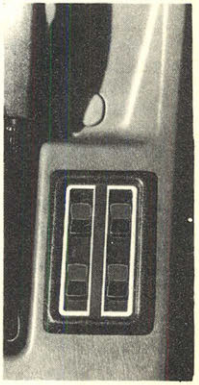
Where this option is fitted, the door window operating motors are connected through the ignition switch so that they cannot be operated unless the key is in the ON position.
A master switch group for the windows is fitted in the console on the transmission tunnel. Both rear door windows can also be operated by individual rocker switches located in the doors.
An insolation switch (knob) located on the lower section of the instrument panel to the right of the steering column will override and isolate the rear window switches.

WINDOW SWITCH OPERATION

Fitted in Console.
To Raise—Push forwards—towards front.
To Lower—Push backwards—towards rear.

Fitted in Trim Panels.
To Raise—Push upwards—towards window
To Lower—Push downwards—towards floor.





SEAT BELTS

GENERAL NOTES

Australian Design Rules require Seat Belts to be fitted as standard equipment; therefore, this section should be carefully studied.

In the interest of safety, seat belts should be checked regularly. Your Dealer will inspect and check the belts for you as part of the normal Guardian Maintenance Service. Never attempt to modify or change the seat belt away from the original specification as this will affect the operation of the belts and reduce their effectiveness in preventing injury in an accident.

WARNING: Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis, or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.

Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.

Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.

It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.

Belts should not be worn with straps twisted.

Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.

RELEASING BELTS

To release all belts simply depress the release button located at the end of the buckle.

CARE OF SEAT BELTS

Keep the belts clean and dry. Clean with a mild soap solution and lukewarm water. Keep sharp edges and damaging objects away from belts.

Periodically, inspect the belts, buckles and anchorage points. Damage or fraying that could lessen the effectiveness of the system should be eliminated by replacing the belt assemblies. Do not bleach or dye the belts since this can cause severe loss of strength as also will contamination of the webbing with polishes, oils or chemiclas—particularly battery acid.

USING SEAT BELTS

Various road laws require the wearing of seat belts. It is important that the habit of using these belts should be developed by yourself and others using the vehicle.

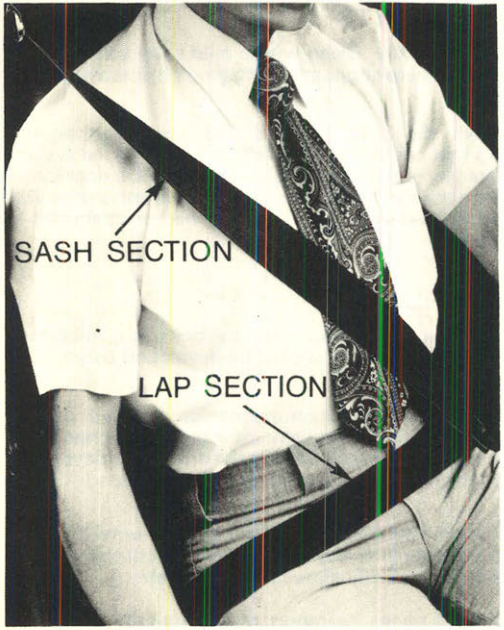
The adjustment and operating instructions are detailed in this Section together with the Seat Adjustment it being important that both positions be comfortable in order that the driver may devote his entire attention to the job of driving and observing the road.

IMPORTANT: Don't use belts that are twisted—untwist them before making any adjustments and be sure that they contour around the body comfortably when adjustments are complete.

(Refer to the following pages for important instructions.)

LAP/SASH COMBINATION BELT

A firm, low position across the pelvis by the lap section of the Lap/Sash Combination Belt is essential in order that the force exerted by the Lap Belt in a collision may be spread over the strong hip bone structure and not across the soft abdominal area.



EMERGENCY LOCKING RETRACTOR TYPE

This type of seat belt allows the wearer to move bodily while the seat belt is fastened. It is also dual sensitive.
The first way the locking mechanism is activated is by sudden changes of vehicle speed or vehicle direction, as in the case of firm brake application or vehicle impact during an accident. This phase of the retractor mechanism's operation can be tested by allowing the body to be restrained only by the belt during firm application of the vehicle brakes, at between 2-5 km/h (brisk walking speed) under safe conditions. The belt should lock immediately, stopping all belt movement. The second way the locking mechanism is activated is by a sudden extension of the belt from the retractor housing. This phase of the retractor mechanism's operation can be tested by holding the belt tightly and giving it a sudden firm jerk. The retractor mechanism should lock immediately, stopping all belt movement.
These checks should be carried out regularly.

WARNING: No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

TONGUE RESTRICTOR

This belt system incorporates a tongue restrictor which can be moved along the belt to locate and hold the tongue in any desired position.

WARNING: The positioning of the tongue restrictor must never interfere with or stop the belt from fully rectracting.

BELT ADJUSTMENT

1. Adopt a satisfactory seating position.
2. Bring the metal tongue across the body and snap home the Tongue into the Buckle.
3. After fastening, settle the belt by running a hand under the belt, starting at the outer hip area, then across to the tongue and up to the sash section. This will feed back unwanted belt length to the retractor.
4. Finally check the fit and adjustment.

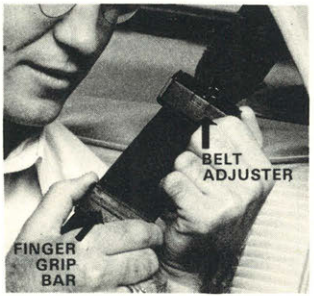
NON-RETRACTOR TYPE

BELT ADJUSTMENT

1. Adopt a satisfactory seating position.
2. Bring the metal Tongue across the body and snap home the Tongue into the Buckle.
3. Adjust the belt to obtain a firm fit. A firm, low position across the pelvis by the lap section of the Lap/Sash Combination Belt is essential in order that the force exerted by the Lap Belt in a collision may be spread over the strong hip bone structure and not across the soft abdominal area.

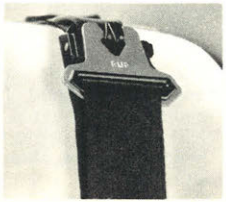
   To Lengthen—Tilt the belt adjuster and then pull the belt at a point below the finger grip bar.

   To Shorten—Tilt the belt adjuster and use the serrated Finger Grip Bar to pull the belt through the belt adjuster.
4. Finally check the fit and adjustment.



BELT STOWAGE

Stowage of the outer section of the belt, is provided by a hook located on the webbing adjuster. These hooks should be used when the belts are not in use to keep them away from door openings.



LAP TYPE BELTS

BELT ADJUSTMENT

1. Adopt a satisfactory seating position.
2. Bring the Tongue Adjuster across the body and snap home the Tongue into the Buckle.
3. Adjust the belt to obtain a firm fit. A firm low position across the pelvis is essential in order that the force exerted by the lap belt in a collision may be spread over the strong hip bone structure and not across the soft abdominal area.

   To Lengthen—Tilt the Tongue Adjuster and pull the belt to the right of the finger grip bar.

   To Shorten—Tilt the Tongue Adjuster and use the serrated Finger Grip Bar to pull the belt through the Belt Adjuster.

BELT STOWAGE

When not in use these belts should be kept with the tongue latched into the appropriate buckle.

INFANT AND CHILD RESTRAINTS

CAUTION: Children in automobiles should be restrained to reduce the risk of injury in accidents, sudden stops or other hazardous situations.

General Motors-Holden's Dealers can advise you about restraint systems designed specifically for use with infants and small children.

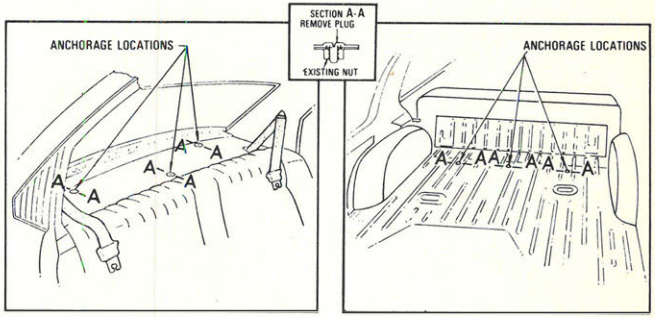
WARNING: Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.

Anchorage points for child restraint systems are provided behind the rear seat of sedan, station wagon and coupe models manufactured by General Motors-Holden's Ltd., after June 30th, 1976. The locations of the anchorage points are shown in the illustration.

In using any infant or child restraint system, read and comply with all installation and usage instructions. All unused seat belts should be stowed properly to help prevent them causing injury in the event of an accident.

If a child is travelling in a vehicle not equipped with an approved infant or child restraint or an alternative restraint system, the following precautions should be taken.

1. Infants unable to sit up by themselves should be restrained by placing them in a covered, padded bassinet which is placed crossways in the vehicle (widthwise) on the rear seat. The bassinet should be securely restrained with the regular vehicle seat belts.
2. Children able to sit up by themselves should be placed on a seat and restrained with a seat belt. If the sash section of the belt causes neck or face irritation due to the child's size, this may be reduced in some cases by positioning the child further towards the centre of the vehicle. If serious discomfort continues, the child should be lap belted in the rear seat. Never allow a child to stand or kneel on any seat.
3. General Motors-Holden's recommends that children be restrained properly when riding. However, if unusual conditions prohibit the use of restraints and require that a child must stand, use the floor directly behind the front seat. This will help minimize the possibility of injury from frontal impacts in the event of an accident.



The GM Child Love Seat is designed for children weighing 9 to 19 kg, up to 1 metre in height, who are able to sit up alone.

VEHICLE LOADING INFORMATION

OVERLOADING

The components of your vehicle are designed to provide satisfactory service if the vehicle is not loaded in excess of the weight specified. Overloading can create serious potential safety hazards and can also shorten the service life of your vehicle. Your GMH Dealer can advise you concerning the proper loading conditions.

TYRE MAXIMUM LOAD RATING AND MAXIMUM VEHICLE LOADING

Kerb weight is the weight of an unloaded vehicle which includes the weight of all coolants and lubricants together with a full tank of fuel. It must be understood that the maximum load rating shown on the tyre placard is not an actual load capacity that can be used for each wheel.

While the tyre manufacturers rate the tyre for this load application at the maximum pressure shown on the placard, the vehicle manufacturer's suspension, ride and handling characteristics must be taken into account. Therefore, the maximum rear axle loading or the maximum loaded vehicle weight should not be exceeded.

TOWBAR LOADS

The load imposed on the towbar ball must be included in the maximum rear axle loading and the maximum loaded vehicle weight, (Refer chart opposite) unless a load equalising hitch is used which fully compensates for towbar ball load by restoring the towbar tongue height to the unhitched position. (Refer 'Trailer Hauling' page 17.)

ROOF RACK LOADS

No increase in maximum loaded vehicle weight is allowable where a roof rack is fitted. It must be understood that roof rack loads alter the handling characteristics of a vehicle due to a change in the centre of gravity. When carrying loads on the roof rack avoid abrupt swerving or sharp steering manoeuvres. The load should be evenly distributed. A load of no more than 68 kg is suggested as a reasonable limit.

BOOSTER SPRINGS AND SUPERLIFT SHOCKABSORBERS

The use of booster springs or superlift shockabsorbers DOES NOT increase the load capacity of the vehicle. The maximum loads shown in the chart below must NOT be exceeded if overloading of axle components and the consequent shortening of service life is to be avoided.

Superlift shockabsorbers do allow adjustment of the vehicle's height, so that improved ride and handling and better ground clearance in rough terrain may be obtained when running heavily laden. (Refer page 51.)

See next page for vehicle weight chart.

VEHICLE WEIGHT CHART

Model	Estimated Kerb Weight kg.	Maximum Rear Axle Loading kg.	Maximum Loaded Vehicle Weight kg.
Commodore Sedan	1220	905	1724
Commodore Station Wagon	1281	990	1813
Commodore SL Sedan	1255	922	1754
Commodore SL Station Wagon	1320	1008	1851
Commodore SL/E Sedan	1400	944	1877

NOTE: The estimated kerb weight represents a standard vehicle without options but with a full tank of petrol.
Where a V8 engine is fitted as an option 91 kg should be added to the kerb weight and the maximum loaded vehicle weight.
*Front Axle Loading L6 minimum 669 kg maximum 838 kg
V8 minimum 802 kg maximum 925 kg
At all times the total of the front axle load and the rear axle load should not exceed the maximum loaded vehicle weight.

TRAILER (CARAVAN) HAULING

Since passenger vehicles are designed and intended to be used primarily as a passenger conveyance, towing a trailer could affect handling, durability and economy. Maximum safety and satisfaction depend upon the proper use of correct equipment and avoiding overloading and other abusive operations which can occur in rough or hilly terrain.

The maximum loaded trailer weight which you can pull with your vehicle depends on the special equipment that has been installed and the load limits that apply to the model.

(Do not exceed the ratings on Page 18.)

TRAILER WEIGHT DISTRIBUTION

To assist in maintaining good handling and avoiding sway, it is important that the vertical load at the trailer attachment coupling be correct. This is normally around 10% of the trailer loaded weight, but the trailer manufacturer's recommendations for load distribution and coupling load should be adhered to. This weight distribution can be checked by weighing the loaded trailer first, then checking the load at the attachment coupling, before hitching the trailer to the tongue on the vehicle.

TOWBAR LOAD

The vehicle loads tabulated on page 18 must not be exceeded, so any towbar load placed on the vehicle by the trailer must be compensated for by reducing the load carried in the car.

The load placed on the towbar may be greatly reduced by the use of a load equalizing hitch, which takes trailer coupling load off the vehicle's rear wheels and distributes it between the trailer wheels and the vehicle's front wheels. These hitches are highly recommended as they reduce rear axle load and increase rear suspension height, improving ride, handling and ground clearance.

When the trailer is coupled to the car, and the equalizing hitch (if installed) connected, the loading on the vehicle may be checked using the suspension height chart on page 16. Note that the chart is for standard suspension and is not valid if the vehicle is fitted with boosters or non-standard springs. Superlift shockabsorbers, if fitted, must be deflated when checking suspension heights.

TYRES

When towing a trailer the vehicle's tyres should be inflated to the highest recommended inflation pressures to compensate for the increased weight on the vehicle and the additional side loads placed on the vehicle by the trailer when cornering, braking and travelling on cambered roads.

MAINTENANCE—AUTOMATIC TRANSMISSION

More frequent vehicle maintenance is required when using your vehicle to pull a trailer. Where an automatic transmission is fitted the transmission fluid will need to be changed every 12 months or 20,000 kilometres. (Refer Section 5 also.)

RUNNING IN PERIOD

It is recommended that your new vehicle be operated for 1500 kilometres before trailer towing. If it is necessary to tow during this period, avoid speeds over 80 km/h, full throttle starts and severe cornering manoeuvres. The same precaution should be observed whenever a new or reconditioned engine, transmission or rear axle has been installed in the vehicle.

ELECTRICAL CONNECTION

To facilitate connection of the trailer wiring to the vehicle's electrical system, a special wiring harness, which provides protection against overloading the turn signal electrical system, is available through any GMH Dealer or a GM Parts and Accessories stockist. This is the only system recommended by GMH. Use of a non-genuine connection could affect the warranty on the wiring of your vehicle.

CAUTIONS:

1. A frame mounted equalizing hitch with a sway control of sufficient capacity is required for trailers over 900 kg loaded weight on all models.
2. Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels or tyres.
3. Trailer brakes are required on trailers over 500 kg loaded weight except where State Laws may specify a lower limit.
4. Do NOT tap into the vehicle's hydraulic brake system. Operation of the trailer brake system by tapping into the vehicle's hydraulic brake system would require fluid displacement from the vehicle's master cylinder. THE VEHICLE'S MASTER CYLINDER FLUID CAPACITY WILL NOT BE SUFFICIENT TO OPERATE BOTH BRAKE SYSTEMS UNDER ALL CONDITIONS.
5. CAUTION: WHENEVER A TOWBAR IS REMOVED BE CERTAIN TO HAVE ANY MOUNTING HOLES IN THE UNDERBODY PROPERLY SEALED TO PREVENT THE POSSIBLE ENTRY OF EXHAUST FUMES, DUST AND WATER.

PERMISSIBLE OPERATING LOADS

Before contemplating the towing of a trailer or caravan, it is necessary to check that the correct equipment is fitted to the vehicle to cover both the legal and manufacturer's requirements. Therefore, the matter should be discussed with your local Authority and a GMH Dealer.

APPLICATION		ALL MODELS	
"A". No brakes fitted to trailer.	"A"	"B"	"C"
"B". Fitted with independently operated trailer brakes and a standard GM. P & A tow-bar.			
"C". Fitted with an independent driver operated trailer brake system and an equalizing load trailer hitch. (Heavy duty tow-bar.)			
Maximum Trailer Weight (Tare Weight plus all load)	500 kg	900 kg	1,800 kg

DRIVING HINTS WHEN TOWING

NOTE: Two aids to towing which should be considered if regular trailer or caravan towing is to take place are:

—A Load Equalising Hitch.
This device raises the rear of the vehicle by distributing the tongue load over the wheels of the entire combination thus reducing the adverse effects on vehicle attitude, steering and braking which would otherwise occur.

—Superlift Rear Shock Absorbers.
When inflated, these increase the height and stiffness of the rear suspension for improved vehicle attitude. However they do not increase the load capacity.

1. Remember that a vehicle's acceleration, braking and ability to negotiate rough and/or winding roads, etc., are all impaired by the extra weight of a caravan or trailer. During summer time the desired performance should be gauged to avoid overheating the engine and transmission. Making a couple of short distance trial runs is a good way of regaining the feel of a caravan. This will eliminate surprises when you pull out of your driveway on the first leg of a long journey to a holiday resort.

2. Have your engine tuned up and spark plugs cleaned or replaced before you depart.

3. Equip your vehicle on both sides with the extended arm rear vision mirrors necessary to see behind your caravan adequately.

4. Headlamps should be re-aimed for correct setting after the vehicle has been loaded and the trailer coupled.

5. When descending steep grades, don't continually apply the brakes to maintain safe speeds. Instead, use a lower gear, permitting the engine to provide a portion of the required braking action.

   Automatic Transmission—(Refer page 27 for use of **2** or **1** position).
   Riding the brake pedal heats up the brakes and reduces braking effectiveness.

6. If your trailer runs off the paved highway surface on to the shoulder, resist the temptation to quickly turn the steering wheel to bring the trailer back on the road. Instead, allow the left wheels of the vehicle to also run off on to the shoulder. Then, wait for a good opportunity to steer the vehicle back on to the road. This will prevent an abrupt swerving reaction and will keep you safely in the traffic lane.

7. Keep your windshield clean, which also means keeping a regular check on the level of the windscreen washing solution container. (Refer page 77 for Windshield Cleaning.)

8. Make sure the vehicle's radiator is not covered by insects.

9. Be careful to observe all Road Laws, regarding trailer and caravan towing, e.g. Ensure that
   —a hitching chain is fitted.
   —the ball or tongue does not obscure the number plate on your vehicle when the caravan is not hitched.
   —the number plate on your caravan is visible at all times.

SECTION—2 STARTING AND OPERATING

EXHAUST GAS

CARBON MONOXIDE WARNING

Avoid inhaling exhaust gases because they contain carbon monoxide, which is colourless and odourless. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal.

The best protection against carbon monoxide entry into the driving compartment is a properly maintained engine exhaust system. If you notice a change in the sound of the exhaust system, if exhaust fumes are smelled or detected in any other way inside the vehicle, or if the the exhaust system or rear of the vehicle is damaged the vehicle should be taken to a GMH Dealer for inspection.

Have them inspect the complete exhaust system and underbody area for broken, damaged, missing or incorrectly positioned parts, open seams, holes, or loose connections, or other deterioration which could permit exhaust fumes to seep into the driving compartment. Dust or water in the vehicle rnay be an indication of a problem in one of these areas.

It is recommended that the vehicle be inspected each time it is raised for lubrication.

If at any time you suspect that exhaust fumes are entering the driving compartment have the cause determined and corrected as soon as possible. Use the GM parts recommended tor your vehicle for any repairs which may be necessary.

If you must drive under these conditions, drive only with all windows fully open.

CAUTION: Sitting in a parked vehicle with engine running for an extended period is not recommended.
Do not run the engine in confined areas such as garages any more than necessary to move the vehicle in or out of the area.

When the vehicle is stopped in an unconfined area with the engine running for any more than a short period, the following instructions should be observed.

Depending on the equipment fitted:

1. Without Heater—fully open all the normal Flow-through Ventilation Outlets. (Refer page 42.)
2. With a Heater or Forced Ventilation system fitted, close of the normal Flow-through Ventilation outlets then use the fan to pressurize the interior with the control levers set in the appropriate positions. (Refer to the Ventilation section, pages 42 and 43.)
3. With Air Conditioning fitted, set the fan control at the 3rd or 4th position and the Air Distribution Levers away from the **O** position and the Mode control away from Blue Snowflake.

Vehicle rear compartment (that is, the trunk lid) should be closed at all times during normal driving operations, to prevent exhaust gases being drawn into the vehicle.

However, if for some reason the rear compartment has to remain open while travelling, the following precautions should be observed:

1. Close all windows and fully open whatever ventilation system is fitted. (Outlined above.)
2. Do not exceed 50 km/h unless necessary, according to traffic conditions and regulations.

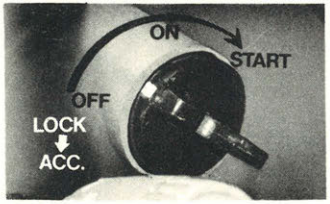
EXHAUST POLLUTION AND YOUR NEW VEHICLE

Your new vehicle has been designed and equipped with several engine, carburation components and modifications which are intended to minimize the emissions of harmful exhaust pollutants. Refer to the Emission Control Owner's Handbook supplied with the vehicle. One of the requirements or assurance that your vehicle will continue to operate as designed in regard to exhaust emissions and driveability, is the need for owner maintenance. Refer to the Owner Guide for maintenance requirements.

STEERING COLUMN CONTROLS

ANTI-THEFT IGNITION/STEERING LOCK

The anti-theft lock is located on the right hand side of the steering column and has five positions:



ACC (1st Back from Lock)—Permits operation of electrical accessories when the engine is not running. To engage, push the key in and turn toward you (counterclockwise).

LOCK (Normal Parking Position)—Locks the ignition when the key is removed and provides an added theft protection by preventing normal operation of the steering wheel.

OFF (1st Forward from Lock)—Permits turning the engine off without locking the steering wheel.

ON (2nd Forward from Lock)—Normal operating position. The ignition circuit and the electrically operated instruments are energised.

START (3rd Forward from Lock)—Permits engagement of the starter.

CAUTION: Do not turn the ignition switch away from the 'ON' position while the vehicle is in motion as this renders ineffective any power assisted equipment fitted to your vehicle.

Never remove the key while the vehicle is in motion as this will lock the steering of the vehicle and render it inoperative.

NOTE: If the steering lock is difficult to disengage when the vehicle has been parked with the tyres hard up against the kerb or with the steering wheel off-centre it may be necessary to rotate the steering wheel to free up the ignition steering lock.

PARKING: When leaving your vehicle unattended:

1. Apply the parking brake. (Refer to page 31.)
2. Place transmission selector in: Reverse—Manual Trans.
   Park—Automatic Trans.
3. Turn key to LOCK position.
4. Remove key.
5. Lock all doors and windows.

POWER STEERING (where fitted)

An integral servo system has been designed to reduce steering effort. It uses hydraulic pressure to lighten steering loads and is designed so that 'road feel' is retained. Care should be taken not to hold a turning force on the steering wheel when stationary (i.e. when waiting before turning a corner, etc.) as this may lead to high temperatures and deterioration of the hydraulic fluid.

CAUTION: Power Steering assistance is provided by a hydraulic pump driven by the engine. The power steering is rendered ineffective when the engine is not running, if the power steering pump drive belt breaks or if the pump reservoir is empty of fluid.
Do not drive the vehicle under these conditions.

HORN

The horn is operated by pressing the bar, which is situated across the steering wheel. The horn can be operated at any time.

TURN SIGNAL OPERATION

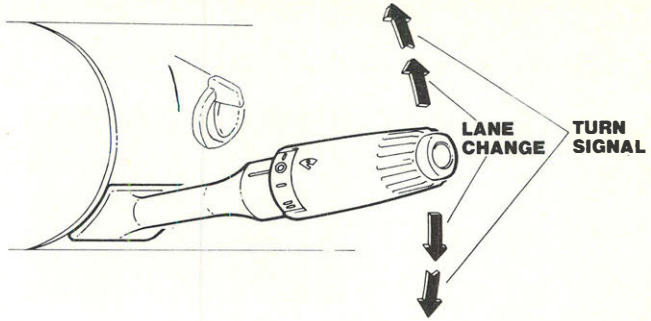
To operate the turn signal (Direction Indicator) lights, the ignition switch should be in the ON position.
When the combination stalk is moved up or down, a tell-tale green light will flash intermittently, indicating in which direction it is intended to turn. As the steering wheel returns to the straight ahead position, the indicator mechanism automatically cancels the signal and the lever to its neutral position. Both the front and rear external turn signal lights will flash together according to the direction selected.
Proper functioning of the turn signal lamps is indicated by normal flashing of the green tell-tale lights on the instrument panel as well as by audible clicking signal from the flasher timing unit. If the tell-tale signal should increase appreciably in flashing speed and the clicking signal is not audible or if the tell-tales do not flash when the turn signals are operated, a malfunction exists in the system, which should be attended to immediately in the interest of your safety and other road users.

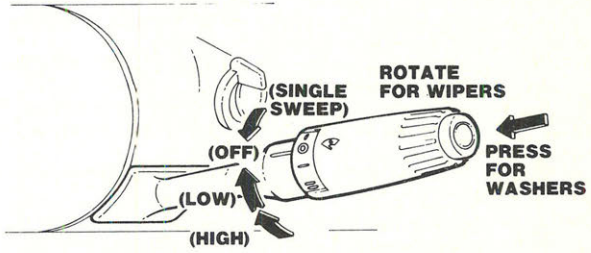
LANE CHANGE INDICATION

Using the two-stage operation it is possible to signal lane changing by exerting slight finger pressure on the stalk in the direction of intended vehicle movement. On release of finger pressure the stalk will return to the neutral position.

FOUR-WAY HAZARD WARNING FLASHER

In the event your car is disabled, or you stop for any reason off a road or highway, the four-way hazard warning flasher system should be used to warn other drivers that your vehicle is a traffic hazard, day or night. The system is activated by depressing the red push button, located at left side of the steering column (see page 37). When in action both the turn signal indicators on the instrument panel will flash. It may be cancelled by withdrawing the push button.





CAUTION: Use of the hazard warning system while the vehicle is moving is prohibited by law.

WINDSHIELD WIPERS AND WASHERS

The wiper and washer mechanisms operate when the ignition switch is in either the ON or ACC positions.

WIPER OPERATION—The windshield wipers are operated by turning the end of the stalk clockwise from the O position:
– Position for slow wiper speed.
= Position for fast wiper speed.

To stop the wipers, turn the stalk back to the O position. An extra position is provided which operates the wipers for a single sweep only. From the O position turn the stalk anti-clockwise to the I position and release. The stalk will return to the O position and the wipers will sweep once across the windscreen and return to their rest position.

Dwell Control (where fitted). Refer to page 38.

WASHER OPERATION—By depressing the button on the end of the stalk the electric washer pump is activated, spraying jets of fluid onto the area swept by the wiper blades. If the windshield wipers are not in operation at the time, depressing the button on the stalk will automatically start them operating on slow speed and keep the wipers operating until turned off.

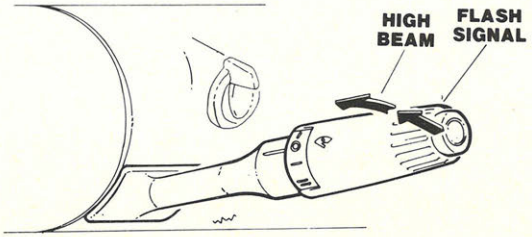
REAR WINDOW WASH/WIPE SYSTEM (where fitted—Station Wagon only)
The rocker switch for operating the rear window wiper/washer system is located in the centre instrument panel console. To activate the wiper depress the switch to the first position. Depressing the switch fully will activate the washer. Water will spray the window for as long as the switch is held in the full position. The water reservoir for the rear window washer is located in the spare wheel well under the rear luggage compartment floor.

HEADLAMP WASH/WIPE SYSTEM (where fitted)

This system, on vehicles so equipped, is operated when the ignition, together with the parking lights or the headlamps, is on. Depression of the windshield washer button on the end of the stalk will activate the headlamp washers and wipers for a fixed (relay-controlled) time. Check the system in regular intervals for proper function, and clean wiper blades with an adequate cleaning solvent. If hardened, brittled or otherwise damaged, replace wiper blades.

HEADLAMP DIPPING

The combination stalk is also used to change the headlamp beam from low to high or high to low. To select high beam move the stalk rearward, towards the steering wheel and then release. Repeating this operation will change the beam from high back to low.
This means that each time the stalk is moved in this manner, the light beam will change. When the headlamps are operating on high beam a blue light located on the instrument panel will glow.
It is also possible to flash the high beam for signalling purposes without operating the light switch by moving the stalk rearward, towards the steering wheel. A light resistance will be felt at the flash position. Further movement towards the steering wheel will cause dip switch operation. The lights will remain on high beam as long as the stalk is held up.
Operating the dipper switch alternates the light beams between low and high on both headlamps simultaneously.



STARTING AND DRIVING

The following suggestions for starting and driving should be followed to assure the best operation of your new vehicle:

PARKING BRAKE

Ensure that the parking brake is applied firmly while starting the engine. Release the brake just before driving away.

MANUAL TRANSMISSION

Depress the clutch pedal and place the gear shift lever in the NEUTRAL position.

AUTOMATIC TRANSMISSION

Place the gear selector in the N or P position. The neutral safety switch will not allow the engine to start in any other position.

6 CYLINDER ENGINE

COLD OPERATION: When the engine is cold, pull the manual choke control fully out and then turn the ignition key to the START position. Release the key when the engine is started. Allow the engine to run at fast idle for at least 10 seconds before engaging gears.
Push the choke control partially in to obtain smooth engine operation. After the vehicle is driven away, push the choke control fully in as soon as the engine continues to run smoothly.

WARM OPERATION: To restart a warmed up engine, leave the choke control in the fully in position, press the accelerator pedal half way down and turn the ignition key to the START position. Release the key when the engine is started.

8 CYLINDER ENGINE

COLD OPERATION: The eight cylinder engines are equipped with an automatic choke system. Before starting a cold engine, press the accelerator pedal slowly to the floor and completely release it again. This action sets the choke system for starting. Turn the ignition key to the START position until the engine is started. If the engine fails to start within a few seconds, turn the key to the OFF position then depress and release the accelerator pedal before turning the ignition key to the START position again. Release the key when the engine is started. If the vehicle has been standing for several days, it may be necessary to repeat this procedure a few times until the engine starts. After the engine has started, allow it to run at fast idle for at least 10 seconds before engaging gears. Do not KICK-DOWN, i.e. do not depress the accelerator pedal in an attempt to lower the engine idle speed. While the engine is running, the automatic choke gradually moves to the off position as the engine reaches normal operating temperature.
In temperatures below 0°C, let the engine run at fast idle in NEUTRAL for at least one minute. Without touching the accelerator pedal, put the automatic transmission into DRIVE and wait for a few seconds for the engine to steady itself before driving away.

WARM OPERATION: To restart a warmed up engine, hold the accelerator pedal in the half depressed position and turn the ignition key to the START position. Release the key when the engine is started.

NOTE: Pumping the accelerator pedal can cause flooding of the engine and difficulty in starting. Should this occur, depress and hold the accelerator pedal fully to the floor while turning the ignition key to the START position. After the engine starts, release the key and let the accelerator pedal return to the closed throttle position.

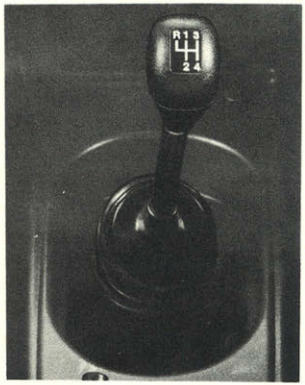
INITIAL DRIVING

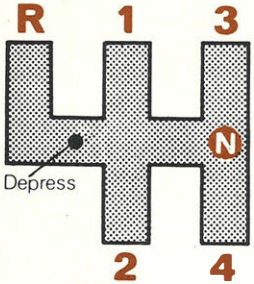
MANUAL TRANSMISSION: Depress the clutch pedal and place the gear shift lever into the first or the reverse gear position. Release the parking brake. Lightly depress the accelerator pedal to increase the engine speed while slowly release the clutch pedal to set the vehicle in motion.

AUTOMATIC TRANSMISSION: Depress the main brake pedal and release the parking brake. Place the gear selector lever into the DRIVE or REVERSE position. Release the brake pedal. Lightly depress the accelerator pedal to set the vehicle in motion.

TRANSMISSION CONTROLS

4 SPEED MANUAL TRANSMISSION





BACK-UP LIGHTS: The two back-up lights provide general illumination behind the vehicle when shift lever is placed in reverse and ignition is turned on. They provide a visible signal to other drivers and pedestrians that the vehicle is operating or about to be operated in reverse gear.

These transmissions incorporate four (4) fully synchronised gears and a non-synchonised reverse gear.
The gear selection is as indicated by the shift pattern. Selection of forward gears should normally take place on a 1-2-3-4-sequence.

NEUTRAL—For use when starting or running the engine while the vehicle is stationary. **Never allow vehicle to travel while using neutral.**

FIRST GEAR (LOW)—Depress the clutch pedal, shift into (1) and smoothly release the clutch pedal while simultaneously pressing on the accelerator pedal. First gear should always be used to start the vehicle moving. Also, having a synchromesh engagement, this gear can be selected while the vehicle is moving to avoid overloading the engine, but do not engage above 30 km/h.

SECOND GEAR (LOW INTERMEDIATE)—Use this gear at slow speeds—less than 50 km/h when driving in traffic conditions. Also this gear gives improved acceleration and retardation when negotiating steep gradients.

THIRD GEAR (HIGH INTERMEDIATE)—Use this gear for acceleration and retardation in the higher speed range of 50 to 80 km/h and where highway conditions are appropriate.

FOURTH GEAR (HIGH) —To be used for normal cruising down to approximately 50 km/h but an intermediate gear should be selected when acceleration or retardation is desired.

REVERSE—This gear must only be selected when the vehicle is stationary. A **pause** after depressing the clutch pedal is desirable before moving the lever into R as indicated by the shift pattern.
The lever knob must be pushed downwards to pass into the R gate path.

AUTOMATIC TRANSMISSION

This transmission is of an automatic three-speed design. The shift patterns are arranged with PARK (P) position at one end followed in sequence by R (REVERSE), N (NEUTRAL), D (DRIVE), 2 (SECOND) and 1 (FIRST). This panel is illuminated at all times with the ignition switch turned on. The automatic transmission is connected electrically through a neutral safety switch designed to permit starting of the engine **only** when the transmission selector is in PARK or N positions. After starting the engine you need only to select the range desired (normally D), release the parking brake and gradually depress the accelerator. Gradual accelerator pressure will give the best fuel economy. Hard acceleration gives top performance, but lowers the fuel economy.

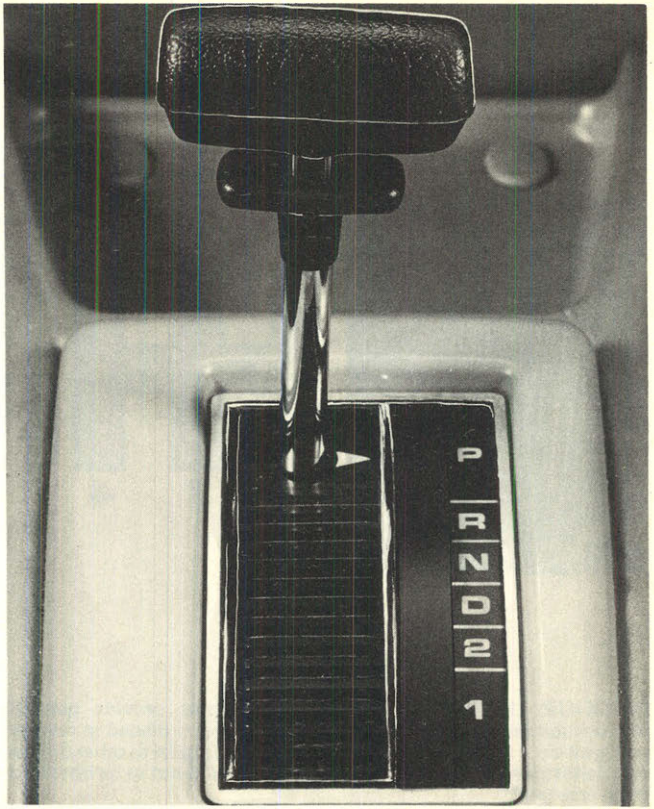
For additional braking effect, as is sometimes needed in mountainous terrain, select either 2 or 1 positions (Refer to later notes regarding speed limit recommendations).

T-handle Shift Lever features a straight-line movement, and is located in the console.

Shift Lever Sequence: P to 1—Raise the release to move from P. Release the release bar before R will still allow selection through to R, to N, to D. Raise the release bar to select 2 or 1.

Shift Lever Sequence: 1 to P.
1 to 2 to D to N can be selected without raising the release bar. Raise the release bar to select R or P.

By lifting the release bar below the selector lever handle selection through from 1 to P or P to 1 and any intermediate positions can be made.



THE OPERATIONAL PROCEDURES FOR EACH SELECTOR POSITION ARE:—

PARK—This position is to be used in conjunction with the parking brake. P must never be selected when the vehicle is in motion. It is one of only two positions (the other is N) in which your vehicle may be started.

REVERSE—For reversing; the vehicle must be stationary before selecting this gear.
(Refer to page 25 for Back-up Lamps.)

NEUTRAL—This position can be used to start the engine, especially if the vehicle is moving with a stalled engine; but never select N while driving normally. Also, if the vehicle has to be towed using the rear wheels, this position must be used.
(Refer also to page 55.)

DRIVE—For all normal forward driving. This position allows for the acceleration and cruising adequate for all but the most crucial driving situations. It permits the transmission to operate through its complete range of gear ratios and select the proper ratio for road and load conditions.
In this drive range, the vehicle begins accelerating in first gear and shifts automatically into 2nd and 3rd gear. When applying gradual and even accelerator pressure, upshifting into the gasoline saving higher gears takes place earlier than when accelerating rapidly. By observing these facts the function of the transmission and favourable fuel economy can be influenced.

SECOND—This position may be selected when travelling down a moderate grade where slight braking action is desired without brake application and the transmission will shift to second gear when the selector lever is placed in 2.

6 Cyl. Models: Do not select over 95 km/h.
8 Cyl. Models: Do not select over 110 km/h.

FIRST—This position may be selected for maximum braking down severe grades. When the selector lever is moved to 1, the transmission will shift to first gear. The transmission selector lever must be shifted back to 2 or D positions before the transmission will again upshift.

6 Cyl. Models: Do not select over 65 km/h.
8 Cyl. Models: Do not select over 65 km/h.

PASSING (Full Throttle Detent)

While driving, if the accelerator pedal is pressed down hard, in order to accelerate or pass other traffic, the following shift changes will normally occur automatically. The speeds given are only an indication as they may vary according to the rear axle and tyre options fitted.

NOTE: If the down shift as described in the chart below does not occur when the accelerator pedal is pressed down hard, the kick-down switch at the top of the accelerator pedal may need to be re-set. To do this push the switch plunger as far forward as possible and then depress the accelerator gently to the floor. This procedure correctly pre-sets the switch. (Your Dealer can advise you on this procedure.)

SELECTION	6 CYLINDER SPEED RANGES	8 CYLINDER SPEED RANGES	EFFECT
SHIFT LEVER IN D			
Over	105 km/h	110 km/h	No Change
Under	90 km/h	95 km/h	Changes to Second Gear
Under	50 km/h	50 km/h	Changes to First Gear
SHIFT LEVER IN 2			
Over	55 km/h	55 km/h	No Change
Under	50 km/h	50 km/h	Changes to First Gear
SHIFT LEVER IN 1			
Don't Exceed	65 km/h	65 km/h	No Change

Blue

AUTOMATIC TRANSMISSION—DRIVING DON'TS

- Do not use high engine R.P. ., with the brakes applied in 1, 2, P, D or R positions as this will cause damage to the transmission by overheating.
- Do not hold the vehicle on an upgrade by increasing engine R.P.M. Use the brakes.
- Do not shift selector into R or P positions before coming to a complete stop.
- The vehicle tends to creep or move when the selector is moved to D or R positions. Application of the main brake or parking brake will hold the vehicle until motion is required.
- Do not coast the vehicle when in N at any time.
  Leaving the vehicle in one of the driving positions allows the engine to supply some braking force when stopping and also helps keep your vehicle under control at all times.

NOTE: Engines in vehicles **with Automatic Transmission** CANNOT be started by pushing or towing the vehicle.
For more information refer to section "IN CASE OF EMERGENCY".

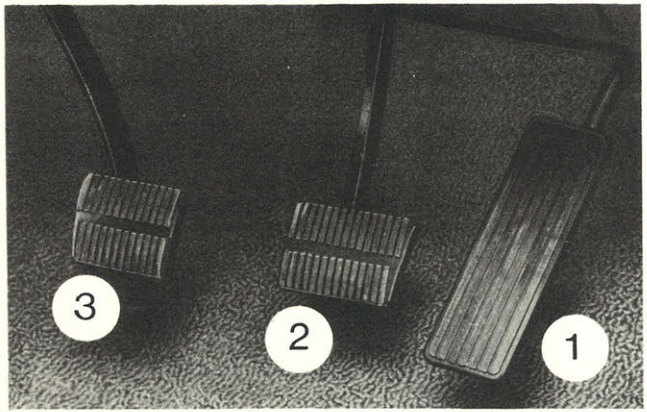
FLOOR CONTROLS

BRAKE OPERATION

CAUTIONS: Driving through water may affect brake performance. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead until brake performance returns to normal.

In case of a partial system failure, the brake pedal may require full travel to the floor. Travel should not be obstructed by additional floor mats or other material. The seat position should be close enough to allow the pedal to be pushed to the floor if necessary.

Riding the brake by resting your foot on the brake pedal when not intending to brake, can cause abnormally high brake temperatures, excessive lining wear and possible damage to the brakes as well as reducing brake effectiveness.



1. Accelerator Pedal.
2. Main Brake Pedal.
3. Clutch Pedal (not with Automatic Transmission).

BRAKE FAILURE WARNING LIGHT

(Refer to page 36—Indicator Lights.)

In the event of the warning light being activated while the vehicle is moving and after the brake pedal has been firmly used, pull across to the side of the road, braking as carefully as possible, but remember that:

1. Stopping distance will probably be greater.
2. Greater pedal effort may be required.
3. Pedal travel should be greater.

Then, try, if the road gradient is considered sufficiently safe, to stop the vehicle from a low speed several times, bearing in mind that:

1. If you judge such operation to be safe, proceed cautiously at reduced speed to the nearest GMH Dealer for inspection and rectification.

OR

2. If in your opinion the vehicle is not safe to drive, have it towed to the nearest GMH Dealer for inspection and repair.

CAUTION: Continued operation of the vehicle for normal use in this condition is dangerous.

NOTE: The addition of this warning indicator is not a substitute for the normal maintenance check of brake fluid level in the master cylinder.

DUAL CIRCUIT BRAKE SYSTEM

The foot operated brake system of your vehicle has two separate hydraulic systems—one operating the front wheels, the other operating the rear wheels. Hydraulic pressure is provided from the foot activated master cylinder, which is a tandem design, and provides the same hydraulic pressure to each system.

Therefore, in the event of either the front or rear system being damaged and developing a fault through leakage, one set of wheels can still be braked with reduced effectiveness under increased braking pressure and longer pedal travel.

An attentive driver should immediately be aware of any change in the operating feel from the brake pedal in regard to length of travel and brake effectiveness as related to the pedal pressure applied—any change in normal operation at once indicates a non-standard condition and the situation should be carefully watched for a return to normality or checked at the nearest GMH Dealer or a service station, depending on the urgency of the situation.

POWER ASSISTED BRAKE NOTES

Power assisted brakes utilize engine intake manifold vacuum to reduce the braking effort required at the pedal. A built-in vacuum reserve will supply two or more brake applications after the engine has stopped.

With the engine switched off and the vacuum reserve exhausted the vehicle can still be stopped but much more effort will be required applying the brake pedal.

CAUTION:

NEVER let the vehicle run down steep grades with the engine SWITCHED OFF.

NEVER coast with the engine SWITCHED OFF.

NEVER have the vehicle towed on four wheels with engine off without a solid connection between the towing vehicle. If necessary the vehicle will have to be towed by a tow-truck, i.e. with two wheels off the ground.

DISC BRAKES

No adjustment is required as the disc brakes automatically adjust themselves to compensate for brake pad wear.

A single piston floating head caliper is used to operate the clamping of the brake pads against the disc faces.

The rear brake system includes a proportioning valve. Under normal operation this reduces the pressure to the rear brakes during heavy stops to compensate for weight transfer. In the event of a failure of the front system due to leakage, this valve supplies full pressure to the rear system.

REAR DRUM BRAKES

These are self-adjusting brakes which under normal driving operation eliminate periodic brake adjustment. The self-adjusting mechanism is actuated every time the brakes are applied firmly.

PARKING BRAKE

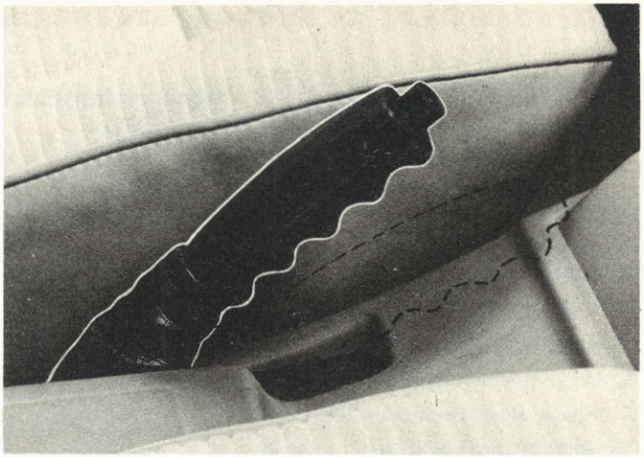
The parking brake activating lever is mounted on the console at the passenger side of the driver's seat.

To Apply. Pull the lever straight up using the grip at the end of the lever. **Do not press the release button.**

To Release. Pull the parking brake lever upwards while simultaneously pressing in the release button at the end of the lever with the thumb. After the ratchet system disengages, retain pressure on the button while lowering the lever.
(Refer illustration.)

WARNING LIGHT

With the ignition switch in the ON position the warning light will operate while the brake is not fully released.
When the brake has been fully released the parking brake warning light in the instrument panel will go out.
Never drive the vehicle with the warning light on.



Parking Brake

ACCELERATOR PEDAL

The accelerator pedal is used to open and close the carburettor throttle valve to vary engine power and thus regulate engine and vehicle speed.

CLUTCH PEDAL

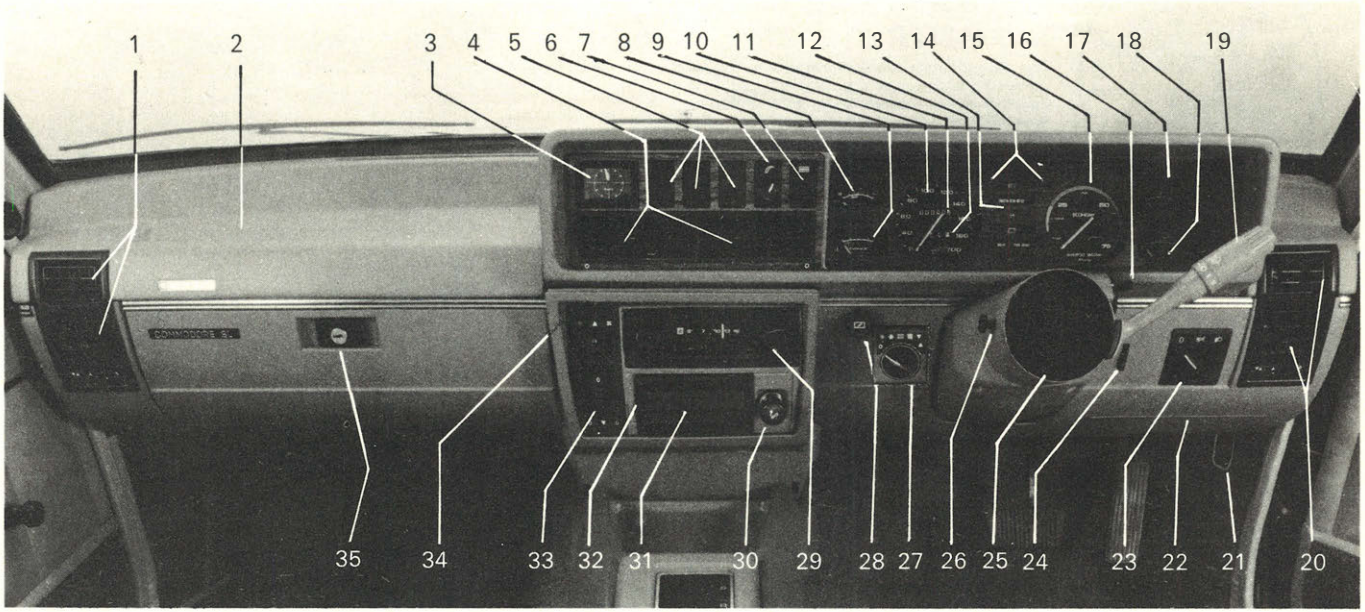
On models equipped with a manual transmission, the clutch pedal is used to engage and disengage the clutch, thereby connecting or disconnecting the engine from the transmission, driveline and rear wheels. When the pedal is fully depressed the clutch is disengaged, disconnecting the drive from the transmission and the rear wheels.

INSTRUMENTS AND CONTROLS

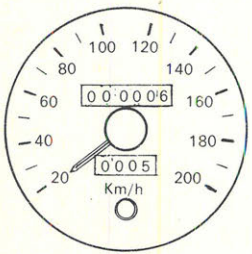
GOOD DRIVING PRACTICE! Always familiarize yourself with the Controls of any vehicle before driving it.

1. Left Hand Flow-Through Ventilation Outlets.
2. Tray.
3. Electric Clock with Adjusting Knob.
4. Central Flow-Through Ventilation Outlets.
5. Accessories Switches (Spares).
6. Windscreen Wiper Dwell Control (where fitted).
7. Heated Rear Window Switch.
8. Voltmeter (where fitted).
9. Temperature Gauge.
10. Speedometer.
11. Odometer.
12. Trip Meter.
13. Warning Light Cluster (Control Lamps).
14. Turn Signal Indicator Lights.
15. Fuel Economy Meter (or Tachometer when fitted).
16. Ignition/Starter Switch.
17. Oil Pressure Gauge (where fitted).
18. Fuel Gauge.
19. Signal Light/Windscreen Wiper Switch Combination.
20. Right Hand Flow-Through Ventilation Outlets.
21. Engine Hood Release Lever.
22. Fuse Box Cover Panel.
23. Light Switch.
24. Instrument Panel Dimmer Wheel.
25. Electric Door Lock/Window Reset Buttons (where fitted)
26. Hazard Warning Flasher Button.
27. Air Conditioning Mode Control (where fitted).
28. Manual Choke Control Knob (with 6 Cylinder Engines only).
29. Radio.
30. Cigarette Lighter.
31. Ash Tray.
32. Speaker Balance Control (where fitted).
33. Ventilation Controls.
34. Luggage Compartment Release inside (where fitted).
35. Instrument Panel Compartment Lock.

INSTRUMENT PANEL

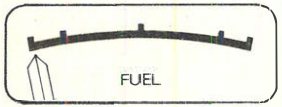


INSTRUMENTS



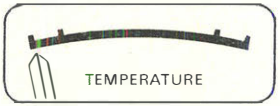
SPEEDOMETER, ODOMETER AND TRIPMETER

The Speedometer face incorporates the odometer digits to show the distance travelled in kilometres. The Speedometer is calibrated from 0 to 200 kilometres per hour (km/h).
A Tripmeter, which is set to zero by the push button, records the distance covered on a particular trip.



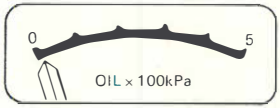
FUEL GAUGE

This gauge is electrically operated to indicate the proportionate amount of fuel contained in the fuel tank. The gauge is activated when the ignition switch is turned to the ON position.
For Wagons: The approximate amount of fuel in the tank is: Full, 68 litres; ¾, 53 litres; ½, 36 litres; ¼, 18.5 litres.
For Sedans: The approximate amount of fuel in the tank is: Full, 63 litres; ¾, 50 litres; ½, 31 litres; ¼ 18 litres.



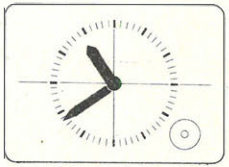
TEMPERATURE GAUGE

The gauge is calibrated to indicate the relative operating temperature of the cooling system. If the needle reaches the red section, (indicating high temperature) the engine should be stopped and allowed to cool down before attempting to locate the cause of the problem. (Refer page 56 for overheating instructions.) Check that no visible leaks are apparent from the cooling system or that the fan belt is not slipping or broken.



OIL PRESSURE GAUGE

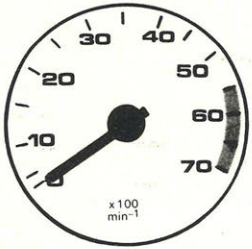
(WHERE FITTED)
The oil pressure gauge indicates the relative operating pressure within the engine lubricating system.
Should the gauge fail to indicate a reading or if the needle moves towards the RED section of the gauge (indicating low pressure) when the engine is running above idle speed, it should be stopped and the reason for the loss of oil pressure found and corrective action taken.



CLOCK (WHERE FITTED)

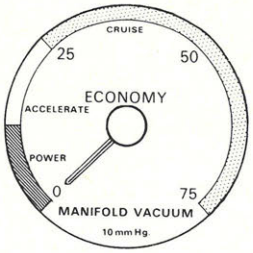
The clock is electrically energised, the time setting is adjusted by turning the knurled knob in the corner of clock face to engage and rotate the dial hands. To fulfil its function, the clock operates at all times.

INSTRUMENTS



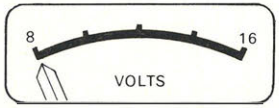
TACHOMETER
(where fitted)

The tachometer is graduated from 0-70 indicating engine revolutions in hundreds per minute (r.p.m.). The section from 55-70 is indicated in RED and continued or sustained operation in this section could cause serious engine damage.



FUEL ECONOMY INDICATOR
(where fitted)

By monitoring the intake manifold vacuum, this gauge gives a reading which indicates good or poor fuel consumption. The RED zone indicates high fuel consumption. You should avoid driving with the needle in this RED zone for prolonged periods if you wish to obtain optimum fuel consumption from your vehicle. The position of the needle can be controlled by your driving habits. (Refer page 87.)



VOLTMETER
(where fitted)

The voltmeter indicates the condition of the electrical charging system. Normally the needle will remain in the white band operating area of the dial.

Needle movement to the left red zone indicates a low voltage condition. Needle movement to the right red zone indicates a high voltage condition.

In either of these cases, the electrical charging system will require checking; items such as the battery, voltage regulation, drive belt or wiring and connections could be affected. A generator charge indicator light is incorporated in the dial face.

INDICATOR LIGHTS

HIGH-BEAM

When the headlamps are on high beam a white symbol on a blue rectangle located on the warning light cluster will glow.

OIL PRESSURE (where fitted)

The white symbol on a red rectangle will glow when the ignition switch is turned to the ON position. After the engine has been started, the light will go out and remain out. If the light should glow after the engine is running above idle, stop the engine and the reason for the loss of oil pressure should be located and corrective action taken.

GENERATOR

The white symbol on a red rectangle will glow when the ignition switch is turned to the ON position. After the engine has been started, the light will go out and remain out. If the light should glow after the engine is running, the fault causing the problem should be located and corrective action taken.

PARKING BRAKE WARNING

PARK BRAKE

When the parking brake is applied with the ignition switch in the ON position, the red sign will glow until the parking brake is fully released.

BRAKE FAILURE WARNING

BRAKE

If the red sign glows at any time, it will indicate that there maybe something wrong with the braking system. Immediately the indicator light glows, under these conditions, stop on the side of the road as carefully as possible. Do not proceed until satisfied that cautious progress is possible or that the cause of the problem has been located and rectified.

(Reference should be made to brake operations on page 29.)

TRAILER LAMP MONITOR (where fitted)

When a trailer is connected a white symbol on a green rectangle will glow.

TURN SIGNAL

There are two green arrow-head turn signal indicators. They are located at the top outer corner of the warning light cluster. The appropriate indicator will flash in the direction signalled.

(Refer to page 22 for operating details.)

HAZARD WARNING FLASHERS

The two green arrow-head turn signal indicators on the instrument panel will flash continuously whilst the Button located on the left side of the steering column is depressed.

This square in the warning light cluster is not illuminated and is provided to remind the driver that seat belts must be worn when vehicle is in motion.

CHOKE (MANUAL CONTROL)

6 Cylinder Models only. (Refer to page 24 for the correct procedures that are to be followed when using the choke.)

CIGARETTE LIGHTER

The Cigarette Lighter is activated only when the ignition switch is in the ON or ACC positions. To operate, simply press in the lighter knob. It will stay in until the element is hot at which time the lighter will automatically pop back to its original position ready for use.

RADIO AND POWER ANTENNA

Where a radio or power antenna is fitted, the manufacturer's instructions, relating to the operation of these options are supplied.

REAR WINDOW WASHER/WIPER

The rear window wiper is operated by depressing the switch to the first position. The washer is operated by depressing the switch fully. Water will spray on the window as long as the switch is held in this position.

DWELL CONTROL (where fitted)

The dwell control can be switched into operation by turning the knob in a clockwise direction, from the initial position, which progressively increases the dwell period between wiper blade sweeps.

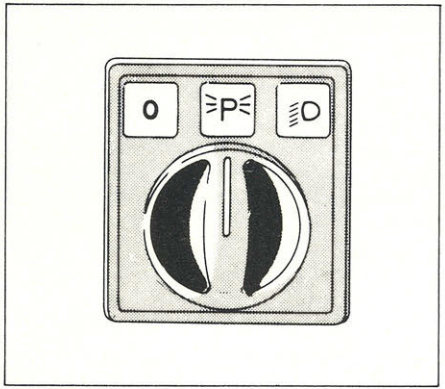
Operation of the wiper blade speed control in either slow or fast positions will override the dwell control setting. If the wiper speed control is returned to the OFF position, the dwell control will take over at the particular setting being used. To turn off the dwell control, the knob must be turned back in the anti-clockwise direction to the switched OFF position.

HEATED REAR WINDOW SWITCH

The electrically heated rear window is switched on with the rocker switch shown in illustration (page 33) and is only working with the engine running. A coloured surface appears on the top of the switch as soon as the electrically heated rear window is switched on. The symbol illumination comes on together with the exterior vehicle lighting, it changes to a purple colour when the rear window heating is switched on.
To avoid overloading the electrical system the electrically heated rear window should only stay switched on until the rear window is clear. When cleaning the electrically heated rear window observe the hints given under "Care of the Exterior"

INSTRUMENT PANEL CONTROLS

LIGHT SWITCH



Headlamps, tail lamps, parking lamps, instrument lighting and interior lighting are controlled from a single switch located on the driver end of the lower instrument panel.

The various operating positions of the switch control the lamps in the following order:—

Parking Light. Turning the light switch clockwise to first detent will switch on parking lights, tail lights and licence plate lights, as well as instrument lights.

Headlights. Turning the light switch fully clockwise to the last detent will, depending upon turn signal lever position, switch on headlight low or high beam, and simultaneously parking lights. This will provide uninterrupted illumination, even if a headlight on either side would fail.

HEADLIGHT HIGH/LOW BEAM CONTROL

When headlights are on, high and low beam selection is made by raising turn signal lever toward steering wheel. Each time lever is raised, beam position will change, even with turn signals in operation.

Always use the low beam when approaching or following other road users.

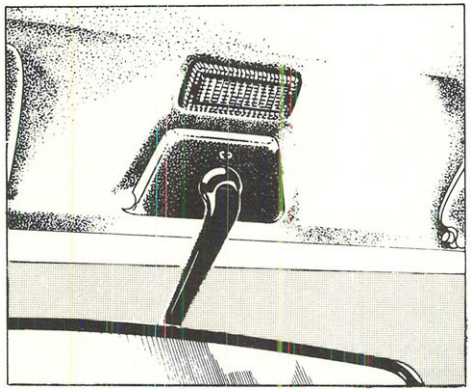
ROTARY CONTROL—INSTRUMENT LIGHTING

The brightness of the instrument lighting may be controlled by rotating the control wheel, the brightness increasing as knob is turned downwards and decreasing when turned the other way, when the light switch is in one of the ON positions.

NOTE: Pull the knob for courtesy lamp.

COURTESY LIGHT

When opening a front door, the courtesy light is automatically switched on. When pulling the light switch knob towards you to first detent, the courtesy light remains on, even with front doors closed. Where rear quarter panel lights and central lamp are fitted these are also activated as above. The spot reading lamps fitted in SL/E models are activated by individual switches on each spot lamp.



LUGGAGE COMPARTMENT LIGHT (where fitted)

The luggage compartment light will come on when opening the lid—independent of exterior lights.

ENGINE COMPARTMENT LIGHT (where fitted)

When opening the hood, the engine compartment will be illuminated, provided the park or headlights are turned on.

BACK-UP LIGHTS

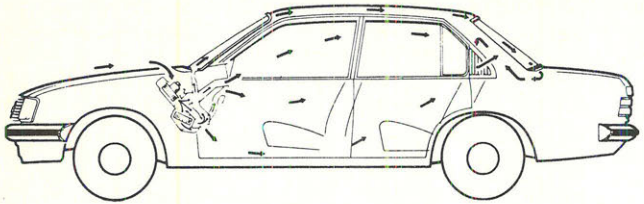
The two back-up lights provide general illumination behind the vehicle when shift lever is placed in reverse and ignition is turned on. They provide a visible signal to other drivers and pedestrians that the vehicle is operating or about to be operated in reverse gear.

VENTILATION SYSTEM

EXPLANATION OF SYMBOLS FOR HEATER AND AIR-CONDITIONER

Symbol	Heater	Air Conditioner	Symbol Logic — Remarks
	Distribution Control Levers	Mode Control	OFF or SHUT
Blue	—	Mode Control	Recirculation of inside air— and this is passed through the refrigerator core, being cooled and dehumidified. This extracts moisture, dust and pollen in the air, leaving it cleaner and relatively dryer.
White	—	Mode Control	Outside air is drawn in—
Blue Red		Mode Control	Intake of outside air—Dehumidified—can be reheated—Partial heat gives warmer air at feet and cooler refreshing air at face level.
Green		Mode Control	Normal ventilation as in a vehicle without Air Conditioning.
	Distribution Control Lever Windscreen	Mode Control	Outside air is distributed to the windshield for demisting and it can also be heated.
	Distribution Control Lever (Floor)	Mode Control	Outside air is distributed to the floor outlets and it can also be heated.
	Fan Control Switch	Fan Control Switch	4 Speed Fan both units
(Blue)	Heat Control Lever	Temperature Control Lever	Heater units—Outside air only is available. Air Conditioning units—Cooled and Dehumidified inside or outside air is available.
(Red)	Heat Control Lever	Temperature Control Lever	Heater units—Heated outside air only is available. Air Conditioning units—Dehumidified and reheated, or heated only outside air is available.

VENTILATION AND HEATING SYSTEM

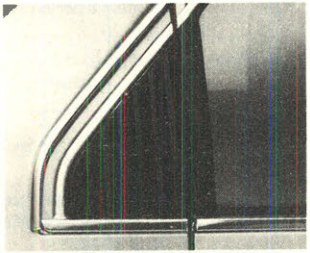


The vehicle features a flow-through ventilation system which will operate with all the windows closed. Fresh air is ducted into the vehicle through the plenum chamber in front of the windshield and enters the passenger compartment via outlet ducts located in and below the instrument panel.

Two extractor vents are provided to complete the control of the flow-through system and act as exhaust outlets to the atmosphere for stale air.

In the sedan models these are located on the rear body pillar.

In the wagon two extractor vents are located in the rear trim and the exhaust outlets are incorporated in the tailgate hinges.



NOTE: Don't allow the plenum inlet grille to be covered or clogged with leaves, snow, etc.

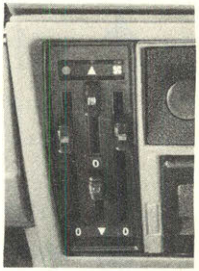
The Heater Controls are arranged in the passenger side of the lower instrument panel. The left lever controls the temperature, the two centre levers the air inlet and distribution, and the right lever serves to operate the blower.

It is recommended to have the air inlet slightly open at all times, except where circumstances such as entering smoke etc., necessitate the temporary closing.

Ventilation and Air Distribution. For ventilation and heating, the fresh air inlet must be opened by moving the two centre levers from the "Zero" position down or up. The air flow is steplessly adjustable and is directed to the floor with the lower lever, and the windshield with the upper one; according to the triangular symbols the air flow can be distributed to the floor or windshield area as desired.

Temperature Regulation. The left lever of the heater controls regulates the inflowing fresh air. The desired temperature change takes place immediately.

COLD: Lowest lever position.
WARM: Uppermost lever position

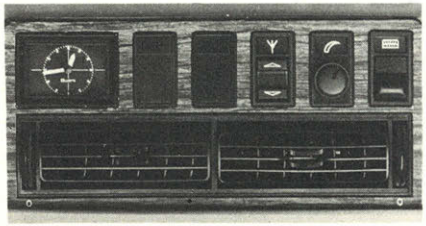


Blower. The right lever of the heater controls serves to regulate the blower speed. The air stream intensity depends on the speed selected. For optimum comfort the blower should also be switched on while driving.

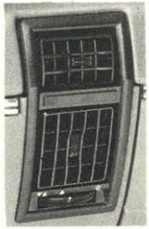
Off: Lowest position
Max. speed: Uppermost position

FRESH AIR AND WINDOW DEMISTING

Centre Air Inlets. Two fresh air inlets in the centre of the instrument panel permit a direct supply of unheated fresh air to the vehicle interior. The air supply is—starting at resting position 0—steplessly opened by means of a regulating wheel provided on the side, and is independent of the two air distribution levers of the control cluster. The air flow can be directed as desired by tilting or swivelling the inlet insert or grille. If required, the blower can be switched on to intensify the air flow.



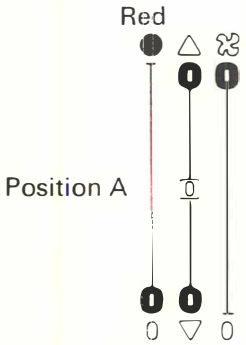
Side Air Inlets. Both of the air inlets situated to the left and right-hand side of the instrument panel provide additional ventilation of the passenger compartment with heated or unheated air; depending on the position of the levers of the heater control cluster. The air supply is controlled via the regulating wheel which is situated below the inlets; this is effected independent of the position of the two air distribution levers in the heater control cluster. Depending on the marks on the regulating wheel and the housing the air flow can either be directed via the upper inlet (triangular symbol pointing up) or via both inlets (triangular symbols pointing both up and down).
Moreover, the air flow can be directed as required by tilting the inlet inserts and swivelling the grille. The upper inlets in particular are suitable to demisting and defrost the side windows.
During the cold season it is considered to be a pleasant feeling if the air inlets are so adjusted that the warm air passes between door and the hip of the driver or co-driver.



FRESH AIR AND WINDOW DEMISTING (cont.)

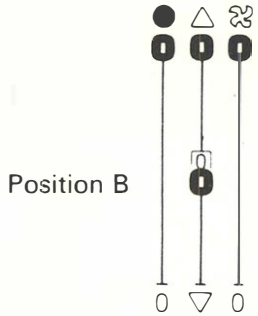
Summer Ventilation

Two levers down
Two levers up
(Position A)
As an effective summer ventilation we recommend to have the ventilation inlets on the sides and the fresh air inlets in the centre opened, while the air distribution levers of the heater control cluster are closed. In this position the air can be directed almost anywhere. Apart from the support from the blower, maximum ventilation via ventilation and heater system is achieved by opening upper and lower air distribution levers in the heater control cluster so that air is directed both to the floor area and to the windshield.



DEHUMIDIFICATION AND DEMISTING OF WINDOWS

All levers up
(Position B)
To rapidly clear frozen and misted windows, both of the air distribution levers and the temperature lever in the heater control cluster must be placed in the uppermost position and the blower switched on. The ventilation inlets must be opened and directed to the side windows. The centre fresh air inlets should be closed.
The heatable back window can also be switched on. If the lower air distribution lever is partly shifted downwards (floor area) the car interior is heated rapidly at the same time.



AIR CONDITIONING

The air conditioning (where fitted) serves to create a pleasant atmosphere in the vehicle interior. Ventilation, heating and refrigeration unit make up the functional unit of the air conditioning system. The refrigeration unit of the air conditioner cools the air and extracts from it moisture and dust. The heating unit heats according to the position of the temperature lever. These characteristics of the air conditioning system contribute to the general well-being of the occupants.

Depending on weather, temperature and personal feeling you can use the air conditioner throughout the year. You can switch the system to air circulation for maximum cooling, i.e. air from the passenger compartment that has already been cooled is cooled again and flows back into the passenger compartment; you can admit cooled outside air, heat the cooled air, or switch the heating off. Independent of the cooling element you can let outside air or heated outside air flow in.

TEMPERATURE CONTROL.

The left lever of the heater and blower switch cluster serves to control the temperature of the cooled and dried air as well as the temperature of the inflowing re-cooled outside air. The lever is steplessly adjustable.
Lowest position: cold
Uppermost position: warm

Blower.

The right hand lever of the heater and blower switch cluster serves to switch on the individual blower speeds.

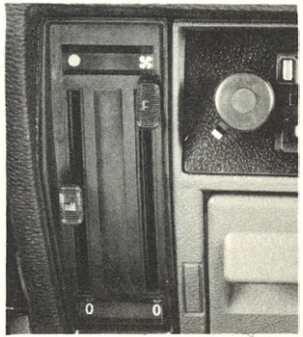
lever in lowest position: low speed.

lever in uppermost position: full speed.

The blower speeds between these two positions are adjustable by moving the lever accordingly.

With the blower switch in the basic position the blower is automatically operating at low speed in all switching positions of the air conditioning switch.

The best efficiency of the air conditioner is obtained with windows closed. With extremely high temperatures in the passenger compartment we recommend to open the windows for a little while—immediately after entering the car and switching the air conditioning on—to permit a speedy escape of the warm air.

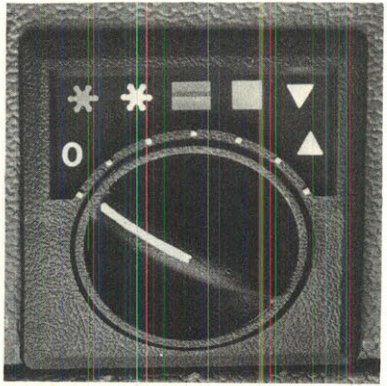


AIR CONDITIONING SYSTEM (cont.)

MODE CONTROL

The switching positions of the air conditioning switch have the following functions:

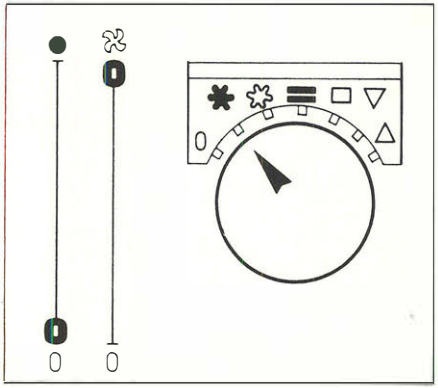
White Circle	**Off**, air conditioning system switched off
Blue Snowflake	**Maximum cooling**
White Snowflake	**Cool** (outside air)
Blue/Red Square	**Bi-level cooling** (outside air)—with temperature lever in intermediate position the upper air outlet is cooler than the lower one.
Green Square	**Ventilation** (outside air)
Triangle Inverted	**Heating** via floor area
Triangle pointing up	**Demisting** of windshield



OPERATING RECOMMENDATIONS

Before driving off in hot weather

Temporarily open window
Air conditioner switch—blue snowflake
Temperature lever —down
Blower —full speed

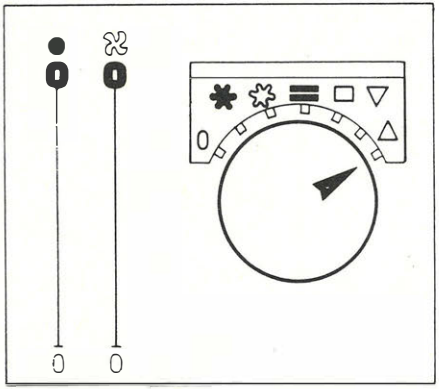


AIR CONDITIONING SYSTEM (cont.)

Before driving off in cold weather

Air conditioner switch—triangle pointing up
Temperature lever —up
Blower —full speed

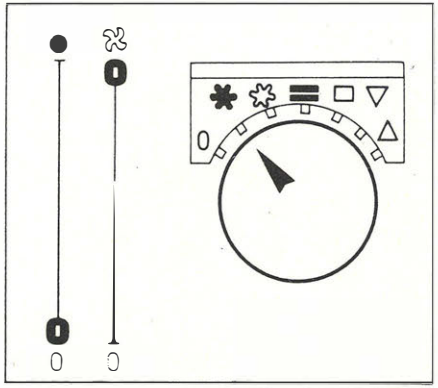
Thereafter, the air conditioning system can be adjusted as described on the following pages.



MAXIMUM COOLING.

A high cooling efficiency is generally desirable for city-driving or, in general, the slow driving or high outside temperatures. This is achieved by switching the air conditioning switch to the **blue snowflake for maximum cooling**, shifting the temperature lever to the lowest (zero) position and switching the blower to maximum speed position.

In this manner, air from the passenger compartment is re-circulated and, together with some outside air, cooled again and dried.



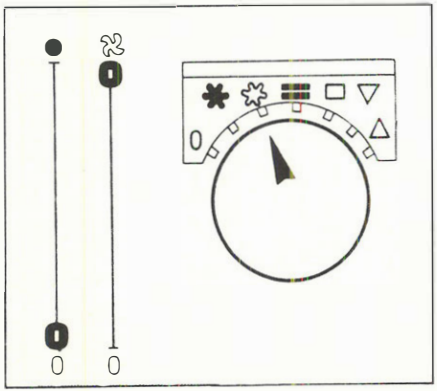
AIR CONDITIONING SYSTEM (cont.)

NORMAL COOLING.

For normal cooling effect, i.e. when driving on highways or for long distance trips it is sufficient to switch the air conditioning switch to the white star. This permits cooled and dried outside air to enter the car interior. The temperature of this air can be steplessly adjusted with the temperature control lever.

In both of the two cooling positions—blue and white snowflake—air flows exclusively via the centre fresh air inlets and the inlets at the sides. Because of the multiple adjusting possibilities of the inlets the air flow can be directed as desired (refer to pages 42 and 43).

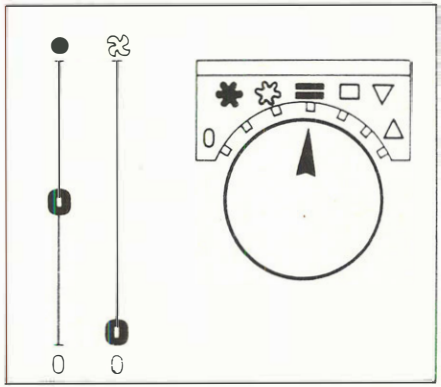
A pleasant novelty of the air conditioning system is the Bi-level position—**blue/red square**—which provides for a cool head and warm feet.



BI-LEVEL COOLING.

In this position air from the centre air inlets and the side air inlets flows to the windshield and to the floor area. The temperature of this area and dried air can be steplessly adjusted with the temperature lever. However—particularly in the central position of the temperature lever adjusting range—slightly warmer air flows into the floor area while the air from the upper inlets is always slightly cooler.
This setting is also suitable to prevent misting-up in humid, warm weather and icing of the windows in winter since cooled, dried and tempered air is circulated through the passenger compartment. Thereby it is practicable to have the upper air inlets at the sides point to the side windows.

The refrigeration element, i.e. the compressor of the air conditioning system, is no longer operating during switching positions of the air conditioning switch described in the following.



AIR CONDITIONING SYSTEM (cont.)

FLOW THROUGH VENTILATION.

To **ventilate** the passenger compartment it is recommended to set the air conditioning switch to the **green square.** In this position the air flows in via the central fresh air inlets and the ventilation inlets at the sides. The air from the central fresh air inlets—can be heated, depending on the position of the temperature lever. This position is intended for cool or moderate weather without any cooling requirements.

HEATING.

Heating during the cold season is best and most uniformly effected via the floor area with the switching position **white triangle pointing down**.

DEMISTING.

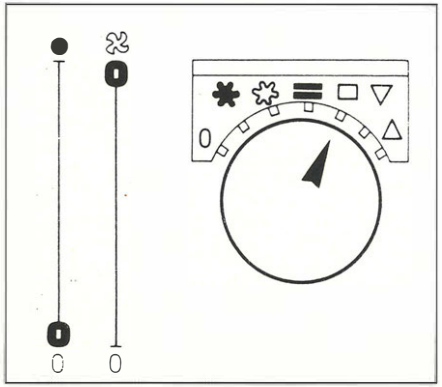
To **demist** the windshield, the switching position **white triangle facing up** must be selected.

In the two above mentioned positions "heating" and "demisting" the temperature of the inflowing air can be steplessly adjusted.

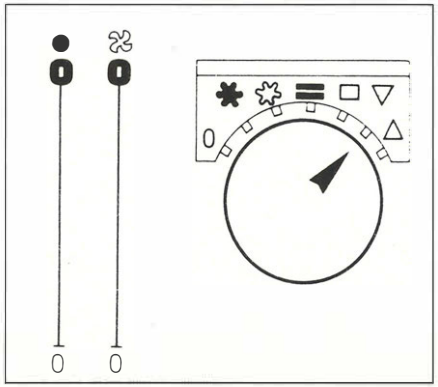
It is also important to know that in the switching position "heating" a small amount of the heated air is always flowing to the windshield.

With the blower switch in the basic position the blower is automatically operating at low speed in all switching positions of the air conditioning switch, except zero position. Different blower speeds, up to maximum speed, can be selected.

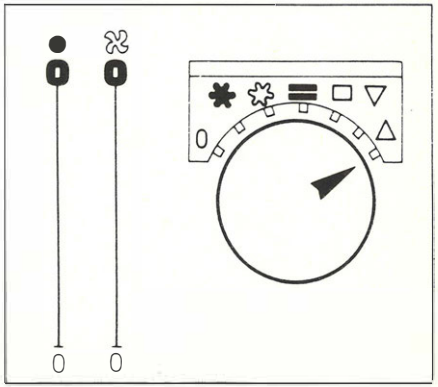
Ventilation



Heating



Demisting



SPECIAL REMARKS

Should, under extreme conditions such as trailer hauling on a long gradient or extended stationary periods in traffic, the pointer of the temperature gauge move into the scale's RED zone, the air conditioner must be temporarily adjusted to either "Ventilation" "Heating", or "Demisting" position to relieve the engine.

The same applies in the instance of start-off difficulties when hauling a trailer in mountainous territory of high altitude.

The selecting of the individual switching positions with the rotary switch of the air conditioning system is accompanied by a hissing sound, which results from the operation of the pneumatically controlled air flaps. After switching the engine off, a short pulsating hissing may be audible from all air conditioning systems until the pressure equalization in the refrigeration unit has taken place.
It must also be noted that, depending on the humidity of the outside air, after switching the eingine off, some condensate from the air conditioner may collect under the vehicle; this occurrence is common to all air conditioning systems.

To ensure a uniformly efficient performance of the air conditioning system it is recommended to operate the system at least once a week for a few minutes. If the inflowing air is not cool in spite of the selected "cool" switching position, the switching position "ventilation", "heating", or "demisting" must be selected to avoid damage to the refrigeration compressor.

Maintenance and repairs of any nature may, under no circumstnaces, be carried out by the owner; it is essential to entrust a specialist with this kind of work. The reason for this demand is not only the complicated technical system, but also your personal safety; contact with the coolant contained in the system may be hazardous to your health. Therefore, consult an authorized workshop to correct any air conditioning problems. This applies also to cases where for instance an engine is to be steamcleaned, or paintwork is to be dried in an oven, since special measures must be observed.

OTHER CONTROLS AND FEATURES

The fitment of the following equipment described is subject to the model or option selected and therefore all items may not be fitted to each vehicle.

SUPERLIFT SHOCK ABSORBERS

These allow direct control of vehicle level, so that when a vehicle is loaded or towing a caravan or trailer, the loaded height can be re-adjusted to give improved ride and handling and ground clearance in rough terrain. Also, they maintain a better headlamp level when high beam is used.
Superlift shock absorbers use compressed air and can be inflated or deflated through an air valve, similar to any standard tyre.

AIR PRESSURE VALVE LOCATION

Inside the luggage compartment on the right side to the upper rear of the wheel housing.

AIR PRESSURE RECOMMENDATIONS

1. Never allow the pressure to fall below 70 kPa as this will result in damage to the shock absorbers.

2. Maximum permissible pressure when the vehicle is fully loaded is 620 kPa.

3. Maximum permissible pressure when the vehicle is unloaded is 210 kPa.

4. The shock absorbers should be inflated when the vehicle is standing on a level surface and only until:
   (a) The vehicle appears to be level, or
   (b) Maximum permissible pressure is reached
   } whichever is reached first.
   (c) Satisfactory ride characteristics are obtained based on previous usage, but not exceeding the above limits.

"LIMITED SLIP" DIFFERENTIAL

Where this differential is fitted, it can be identified by a metal tag retained by the axle filler plug. The label calls attention to the need for special oil in this type of axle which must comply with the **GM HN1561 Specification.**

Use of unsuitable oil could result in noisy operation and/or excessive wear.

The "Limited Slip" Differential directs the major driving force to the rear wheel having the greater amount of traction, but it will not interfere with the normal differential action.

When the rear wheels are under extremely unbalanced tractive conditions (such as when one wheel is on a dry road surface and the other is on ice or mud) wheel spin can occur if over-acceleration is attempted. This condition may also be experienced if the driver over-accelerates on a wet road where a sharp bend must be negotiated.
It is important that there be no excessive rear tyre differences. One indication of this condition is swerving on acceleration. If this is encountered, check the rear wheels for different tyre size, air pressures of excessively different wear and tread patterns.

CAUTION: Never run the engine with a gear engaged and one wheel raised if the vehicle is fitted with a "Limited Slip" differential. The driving force directed to the wheel on the ground will cause the vehicle to move.

WAGON REAR SEAT CONVERSION

CAUTION: Always avoid standing on the off-side (driver's side) if vehicle is parked at the kerb.
FRONT SEAT POSITION: The rear seat may be converted even when the front seat is adjusted to the rearmost position.

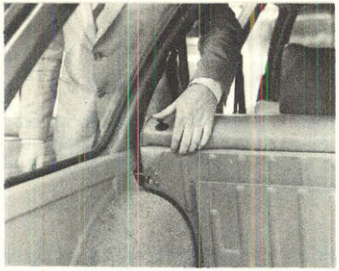


FIG. 1. To unlock the safety catches, depress either of the buttons located on the upper edge of the back of rear seat.

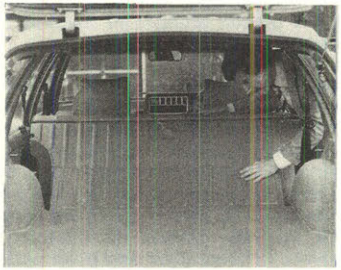


FIG. 2. The seat back can then be pulled forward allowing the spring hinged floor extension to automatically fold forward.

FIG. 3. By pressing the seat–back downwards to compress the seat cushions, the hinged floor extension will drop into place. Apply pressure to the extension and it will lock into its correct position.

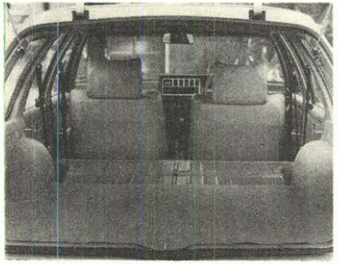


FIG. 4. Completely folded down.

Reconverting the Rear Seat
To return the rear seat to it's normal position, 1 press down on the leading edge of the seat back and lift the hinged floor extension. 2 with the extension lifted raise the seat back into its position. Ensure that the seat back is secure in the lock position on both sides and that the seat belts are free of the seat back.

SECTION—3 IN CASE OF EMERGENCY

EMERGENCY STARTING

CAUTION: Never tow a manual transmission-equipped vehicle to start, because the surge forward when the engine starts could cause a collision with the towing vehicle.

PUSH STARTING

MANUAL TRANSMISSIONS

Should it ever be necessary to start the engine by pushing the vehicle:—

1. Place the gear shift lever in NEUTRAL (N).
2. Check the choke or accelerator pedal setting as they apply to the Starting Procedure (page 24).
3. Turn the ignition switch to ON.
   When the vehicle reaches approx. 15 km/h.—
4. Depress the clutch.
5. Select high gear.
6. Slowly allow the clutch pedal to come up.
   When the engine starts—
7. Drive away from the pushing vehicle.
8. Stop your vehicle at the side of the road.
9. Allow the engine operation to normalise before proceeding.

Bumpers and other parts contacted by the pushing vehicle should be protected from damage during pushing.

AUTOMATIC TRANSMISSIONS

If for any reason the starter motor is inoperative, it is **not possible** with an automatic transmission to select a range for starting the engine by pushing the vehicle.
If the fault is a flat battery, the engine can be started with the aid of a booster battery. (Refer Jump Starting.)

JUMP STARTING (USING A BOOSTER BATTERY)

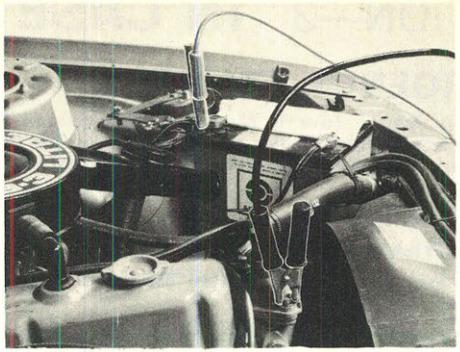
The following procedure is for use **only** under the following conditions. Departures from these conditions and procedures, could result in: (1) serious personal injury (particularly to eyes) or property damage from such things as battery explosion, battery acid or electrical burns, or (2) damage to electronic components in either vehicle. If all the conditions cannot be met, or if you are uncertain about them, we strongly recommend for your safety and that of your vehicle that you leave the starting to a competent mechanic.
The battery in the other vehicle (booster battery) must be of the **same nominal voltage,** 12 volts and must be negatively grounded. The nominal voltage and grounding of the other vehicle's battery may be determined by checking the specifications in its owner's manual. Use of a booster battery of a higher nominal voltage, or which is positively grounded may result in serious personal injury or property damage.

CAUTION: Never expose a battery to open flame or electric spark—battery action generates hydrogen gas which is flammable and explosive. Don't allow battery fluid to contact eyes, skin, fabrics, or painted surfaces. The fluid is a sulphuric acid solution which could cause serious personal injury or property damage. Flush any contacted area immediately with water. Wear eye protection such as industrial safety spectacles or goggles when working on or near battery. Remove rings, metal watch bands and other metal jewellery before jump starting or working around a battery. Be careful in using metal tools and equipment. If such metal should contact the positive battery terminal (or metal in contact with it) and any other metal on the vehicle a short circuit may occur which could cause personal injury. Batteries and battery acid should always be kept out of reach of children.

TO JUMP START:

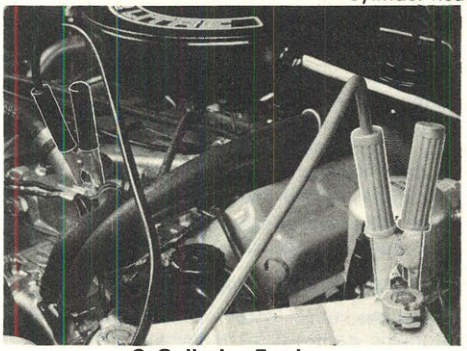
1. Position the two vehicles so they are **not** touching and set the parking brakes. Place the automatic transmission in PARK (**NEUTRAL for manual transmission**) in each vehicle. Also turn off lights, heater and all other unnecessary electrical loads.
2. Remove vent caps* (or covers) from both the booster and the discharge batteries. Lay a cloth over the open vent wells of each battery. These two actions help reduce the explosion hazard always present in either battery when connecting live booster batteries to dead batteries.
3. Attach one end of one jumper cable to the positive terminal of the **booster battery** (identified by a red colour, + or P on the battery case, post or clamp) and the other end of the same cable to the positive terminal of the **discharge battery.**
4. Attach one end of the remaining negative cable to the negative terminal (black colour, — or N) of the **booster battery,** and the other end to your vehicle according to the illustration opposite (**do not connect directly to negative post of dead battery**) taking care that the clamps from one cable do not inadvertently touch the clamps on the other cable. Do not lean over the battery when making this connection.
5. Start the engine in the vehicle that is providing the jump start (if it was not running). Let it run a few minutes, then start the engine in the vehicle with the discharged battery.
6. Reverse the above sequence exactly when removing the jumper cables. Reinstall the vent caps and dispose in a safe manner, any cloths used to cover the vent wells (or covers), as the cloths may have corrosive acid on them.

* Some batteries do not have vent caps.



6 Cylinder Engine

The final earth connection is onto the cylinder head.



8 Cylinder Engine

The final earth connection is onto the thermostat housing retaining bolt at the top of the engine.

TOWING A DISABLED VEHICLE

Towing eyes have been built into the vehicle, both front and rear. These are for towing from car-to-car only and must not be used for salvage work.

CAUTION: If proper precautions are not taken the towing of a vehicle can be a hazardous operation. It is preferable under all circumstances to have the towing performed by an experienced tow truck operator with equipment which is specially designed for the purpose.

All state laws concerning towing must be followed.
When towing a vehicle follow the towing equipment manufacturer's instructions. Use of a safety chain which is completely independent of the main towing attachment is essential for tow truck operation and strongly recommended when the vehicle is towed using a tow rope. When towing with the rear wheels on the ground the transmission should be in NEUTRAL and the parking brake released. Vehicles with defective transmissions should not be towed unless the propeller shaft is removed. Vehicles equipped with automatic transmissions must not be towed at speeds in excess of 55 km/h or distances in excess of 55 kilometres unless the propeller shaft is removed.

CAUTIONS:

1. **Never have the vehicle towed on four wheels with the ignition switch in the LOCK or ACC position.**
2. **Where power brakes and/or power steering are fitted never have a vehicle towed on four wheels without a solid connection between the disabled vehicle and the towing vehicle, unless the engine is running.**
3. **Never tow a vehicle at speeds over 80 km/h.**
4. **Any loose or protruding parts of the damaged vehicle such as doors, hood, fenders, trims, etc. should be secured prior to moving the vehicle.**
5. **Points of attachment of the disabled vehicle should be inspected for damage or deterioration. If an attachment point appears damaged or deteriorated another point at a substantial structure member should be selected.**
6. **Never allow any passengers to ride in a towed vehicle.**

1. TOWING BY TOW TRUCK

The vehicle should be raised until the lifted wheels are a minimum of 10 cm from the ground, care should be taken to ensure adequate ground clearance at the opposite end of the vehicle.

In cases of rearend damage it may be necessary to lift the rear end of the vehicle and tow on the front wheels only. In such cases the steering wheel must be clamped in the straight ahead position using a clamping device designed for towing service use, such as those provided by towing equipment manufacturers. Do not use the vehicle's steering column lock for this purpose.

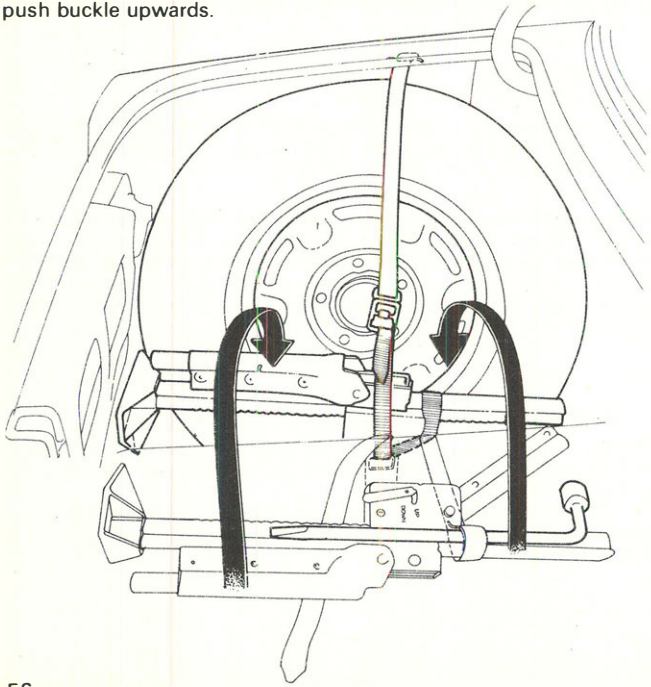
2. TOWING BY A TOW ROPE TYPE ATTACHMENT

The tow rope and safety chains must be attached to one of the two eyes on the front axle. Make certain that the rope attachment to the tow vehicle is as low as possible.
For the sake of safety and to prevent damage to the vehicle and towrope it is advisable, to avoid jerky movements and to drive slowly during towing operations.

SPARE WHEEL STOWAGE

SEDAN

The spare wheel, jacking equipment, and wheel nut wrench are stored in the left rear quarter panel, in the trunk and load compartment respectively. The spare wheel is secured by a strap, the jack base rests on the wheel house panel. To release the spare wheel push buckle upwards.



STATION WAGON

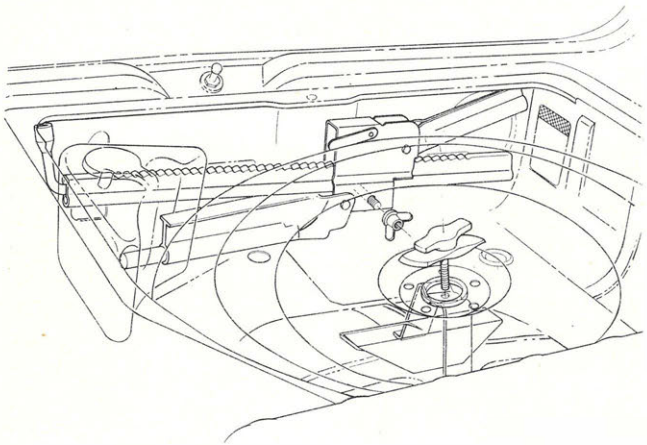
TO REMOVE

1. Roll back carpet and unlock the wheel stowage hatch cover by twisting the locking ring.
2. Open the cover to the full extent.
3. Unscrew the wheel retaining bolt.
4. Remove spare wheel.
5. Unscrew wing nut on the jack retaining stud and remove the jack and wheel nut wrench.

TO REPLACE

1. Place wheel nut wrench into jack column.
2. Position jack base under wheel support bracket.
3. Slide rachet mechanism along jack column so that the hole in the ratchet mechanism will locate with the stud protruding from the rear of the wheel well.
4. Position jack assembly and secure with wing nut.
5. Replace wheel in wheel well and secure with wing bolt.
6. Close and lock hatch cover and replace carpet.

WHEEL TRIM REMOVAL



WHEEL CENTRE COVER (where fitted)

TO REMOVE

Loosen the wheel nuts until the wheel centre cover can be removed. Replace and tighten wheel nuts to the correct torque. (Refer page 55.)

TO REPLACE

Locate wheel centre cover on wheel studs. Tighten wheel nuts finger tight to locate wheel centre cover. Then using wheel wrench, tighten wheel nuts to correct torque. (Refer pages 58 & 89.)

CAUTION: It may be necessary to protect the hand during this operation.

WHEEL TRIM RING (where fitted)

TO REMOVE

Insert the blade end of the wheel nut wrench between the outer edge of the wheel trim ring and the wheel, diagonally opposite the tyre valve. With light blows using the palm of the hand and directed towards the wheel hub, force the wrench inwards for half the length of the blade (wedge) section. Then at several points around the wheel lightly pry the trim ring off by moving the wrench away from the tyre, using the wheel as a levering point.

TO REPLACE

Position the trim ring so that the valve hole in the ring is directly over the valve. While pressing the ring firmly against the wheel at a position below the valve, knock the ring onto the wheel with several light blows using the palm of the hand. Repeat this operation at several positions around the edge of the ring until a secure installation is obtained.

CAUTION: It may be necessary to protect the hand during this operation.

WHEEL CHANGING

CAUTIONS:

Carefully follow jacking instructions in order to reduce the possibility of serious personal injury.

The jack is designed for use ONLY when changing wheels.

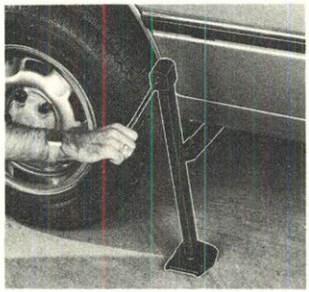
Never get beneath the vehicle when supported by the jack only.

Do not start or run the engine while the vehicle is on the jack only.

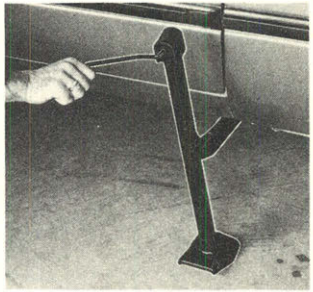
While the vehicle is on the jack excessive passenger movement or releasing of the parking brake could cause the vehicle to move off its jacked position. Therefore, wherever practicable it is best to disembark the passengers during the jacking operation.

INSTRUCTIONS

1. Park on level surface and set parking brake firmly.
2. Set automatic transmission in park (manual transmission in reverse) and remove ignition key.
3. Remove the tools and spare wheel (Refer previous instructions).
4. Block the wheel diagonally opposite the jacking position.
5. Remove the wheel trim (Refer previous instructions). Using the wheel nut wrench slightly loosen the wheel nuts but do not remove them.
6. Place column in base, feed spigot into tube provided in vehicle body and position base as illustrated.
7. Move 'up/down' lever to 'UP' position, insert wheel wrench into ratchet arm and with steady pumping action raise vehicle until tyre clears ground.
8. Remove the wheel nuts and avoid losing them or getting dirt in the threads. Remove the wheel and change it over with the spare.
9. Replace wheel centre cover (where fitted).
10. Tighten the wheel nuts finger tight and then partially tighten using the wrench.
11. Move 'up/down' level to 'DOWN' position, lower vehicle using steady pumping action then **fully tighten** wheel nuts using the sequence illustrated. A load of approximately 25 kg on the end of the wheel nut wrench is adequate.
12. Completely lower the vehicle and remove the jack.
13. Replace the wheel trim and stow the tools and changed wheel according to the previous instructions.

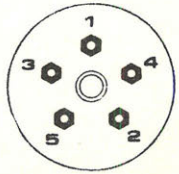


REAR



FRONT

CAUTION: As soon as practicable, after a wheel change, the wheel nut torques should be checked at a GMH Dealership, or by a competent person, to ensure correct tightness. Refer page 86 for wheel nut torque specifications.



WHEEL NUT TIGHTENING SEQUENCE

OVERHEATING

If, while the engine is operating, the needle of the temperature gauge moves towards the red area, particularly during high load pulling, bring the vehicle to a stop at the side of the road and allow the engine to idle for approximately 2 minutes only, to cool down, after which it should be turned off and the engine hood left open.

While the engine is cooling check whether the fan belt is slipping or broken and check all radiator hoses for leakage and damage.

Check coolant level in the recovery bottle to ensure correct level.

Towing eyes have been built into the vehicle, front only.

CAUTION: DO NOT remove the radiator cap while the engine is still hot because the cooling system will blow out scalding fluid and steam under pressure which is likely to cause serious personal injury and loss of coolant. Therefore, the coolant level should be checked only when the engine has cooled down.

TO REMOVE THE CAP WHEN THE ENGINE IS COOL:

1. Slowly rotate cap counterclockwise to detent. Do not press down while rotating.
2. Wait until any residual pressure is relieved—as indicated by a hissing sound.
3. After any hissing ceases, press down on the cap while continuing to rotate counterclockwise. Remove the cap, check the coolant level, and add water if necessary.

IMPORTANT: Never pour cold water into the radiator when the coolant is extremely low and the engine hot. Wait until the engine has cooled down, then run the engine at idle speed while slowly adding water.

If anything is found to be faulty **do not** run the engine until the cooling system has been checked and the fault rectified by the nearest Service Station, or prefereably a GMH Dealer.

If no fault is found, switch the ignition to the ON position and if the warning light does not come on it indicates that the engine has cooled sufficiently to proceed carefully. Start the engine and continue driving, keeping a constant watch on the temperature gauge.

If the overheating condition occurs again stop the vehicle according to the previous instructions and arrange for a GMH Dealer or Service Station to check the cooling system. However if there is no indication that the overheating condition will occur again it is safe to proceed but it is recommended that the cooling system be thoroughly checked by a GMH Dealer at the first convenient opportunity.

NOTE: Radiator pressure caps should be checked annually by your Servicing Dealer for proper operation and replaced as required with the applicable AC type.

FREEING THE VEHICLE FROM SAND ETC.

If it becomes necessary to rock the vehicle to free it from sand, mud or snow follow the appropriate instructions below.

MANUAL TRANSMISSION

On manual transmission models, move the gear shift lever from second to reverse gear in a repeat pattern while applying light pressure to the accelerator but only when fully engaged in either gear. Do not race the engine.

AUTOMATIC TRANSMISSION

On automatic transmission models move the selector lever from **D** to R in a repeat pattern while simultaneously applying light pressure to the accelerator.

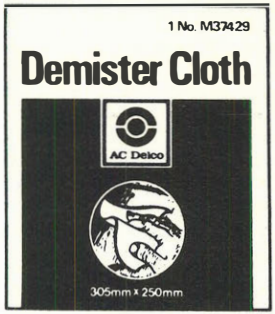
CAUTION: Do not spin the driving wheels in excess of 60 Km/h as indicated on the speedometer. Personal injury and severe damage may result from excessive wheel spinning including tyre disintegration or rear axle failure.

SECTION—4 APPEARANCE CARE

AC Delco QUALITY CAR CARE PRODUCTS

AC Delco Quality Car Care Products available through an authorized GMH Dealer for vehicle cleaning operations include —

- POLISHING CREAM
- DEGREASER
- SYNTHETIC CHAMOIS
- WASH & WAX
- POLISHING LIQUID
- UPHOLSTERY CLEANER AND DEODORANT
- DEMISTER CLOTH
- OPTIKLEEN



PAINT AND APPEARANCE ITEMS

Imperfections in paint, trim or other appearance items would normally be apparent and corrected during New Vehicle Pre-delivery conditioning. Therefore, we suggest that if you find any paint or appearance imperfections, call it to the attention of your Dealer without delay as normal deterioration due to use and exposure is not covered by the New Vehicle Warranty.

VEHICLE CLEANING

A job always becomes easier when it is tackled in a systematic way, and vehicle cleaning is no exception. We suggest that if you set about the task of washing and polishing your vehicle in the following sequence the best results will be achieved:—

1. Brush out and clean the interior.
2. Carry out preliminary steps to washing.
3. Wash the exterior.
4. Polish the exterior and finish off.

Ask your GMH Dealer for the recommended range of AC Delco Car Care Products.

CLEANING OF INTERIOR

CARE AND CLEANING OF UPHOLSTERY

Dust and dirt particles which accumulate on the surface of the interior trim should be removed every few weeks—more often with constant hard driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains from an upholstery fabric, it is necessary to determine as accurately as possible:

1. The type of fabric.
2. The nature and age of the stain.
3. The effect of the stain removal agent upon the colour, structure and general appearance of the trim material.

It is essential that stains be removed from the trim material as soon as possible after they have been made. If they are allowed to remain on the fabric for any length of time they very often become oxidised or set, and removal becomes difficult, if not impossible.

CLEANING P.V.C. COATED FABRICS

Vinyl (P.V.C.) coated fabrics are used for seating, headlining and auxiliary trimming. The grades used vary according to their function. P.V.C. fabrics are generally made with fabric bases upon which synthetic resins are applied. Care of P.V.C. fabrics is a relatively simple but important matter. The surface should be wiped over with a dry cloth during the regular cleaning of the vehicle. Should dirt accumulate and become embedded in the material pattern the following procedure is recommended.

1. Using lukewarm water and soap, work up thick suds on a piece of cheesecloth, and apply to the surface. A soft bristle brush can be used to advantage to remove stubborn stains or dirt embedded in the grain of the material.
2. The operation should be repeated using only a damp cloth and no soap.
3. The trim should then be wiped dry with a soft cloth.

The above cleaning instructions also apply to the rubber floor mats.

IMPORTANT: Where stubborn stains on P.V.C. fail to respond to the above methods, a light application of AC Delco Upholstery Cleaner and Deodorant (Part Number M37222) with a soft cloth will usually prove satisfactory.

Do not use cleaner excessively.

CLEANING CLOTH TRIM MATERIAL

Where the seats in your vehicle are upholstered with cloth, the following instructions should be observed.

Most loose dirt and dust can be removed by a vacuum cleaner or a soft brush. **Do not Use a Whisk Broom or a Coarse Hair Brush.** If normal soiling should take place, it is recommended that the fabric be sponged lightly with warm water containing a detergent and a small amount of ammonia. The fabric should then be rubbed lightly, and if neccessary, sponged again to remove anything stubborn. Soak up excess fluid with dry cloth. AC Delco Upholstery Cleaner may be used to advantage, but should be used sparingly.

CLEANING WOOD GRAINED INSERTS

Wood grained finish should be wiped over with a dry cloth during general cleaning of the vehicle. If further cleaning is necessary, lukewarm water and soap may be used. Dry the area thoroughly with a soft dry cloth.

CLEANING CARPETS

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt; then using AC Delco Car Care Upholstery Cleaner, clean approximately one square foot at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner. After cleaning the carpet, use an air hose to fluff the carpet pile, then dry the carpet. After the carpet is completely dried, use an air hose to again fluff the carpet pile.

CLEANING SEAT BELTS

Cleaning of the seat belts can be carried out by using a mild non-abrasive soap and lukewarm water. After washing be sure to thorougly sponge the washing solution out of the belts.

CAUTION: Do not bleach or dye belts since this may severely weaken belts.

CLEANING ASH TRAYS

INSERT TYPE

To remove, open the lid of the ash tray and use the lid to pull out the ash tray complete. The tray can then be emptied and cleaned. To replace, reverse the procedure.

TILT-OPEN TYPE

To remove, open ash tray, depress the spring loading tab in centre and carefully withdraw. The tray can then be emptied and cleaned. To replace, reverse the procedure.

CLEANING GLASS

GLASS

The interior glass areas of the vehicle should be cleaned using a non-abrasive household detergent and clean, soft cloth.
Care must be taken when cleaning inside the rear windscreen so as not to damage the heating element.

CAUTION: Many cleaners may be toxic or flammable, or may cause damage to the interior. When cleaning the interior, do not use volatile cleaning solvents such as: acetone, lacquer thinners, enamel reducers, nail polish removers; or such cleaning materials as laundry soaps, bleaches or reducing agents. Never use carbon tetra-chloride, gasoline or naphtha for any cleaning purpose.

IMPORTANT: Be sure the vehicle is well ventilated while using any cleaning agents. Follow the manufacturer's recommendations when using such products.

CLEANING OF EXTERIOR

PRELIMINARY STEPS

CAUTION: Care should be used when moving the vehicle after washing, in case water has affected the brakes.

Frequent hosing and washing of the vehicle cannot be overstressed as the most effective precaution against corrosion. Other items requiring attention before washing the vehicle are as follows:—

1. UNDERBODY CLEANING

The effects of salts and other corrosive materials from road surfaces can result in accelerated rusting and deterioration of underbody components such as brake and fuel lines, frame, underbody floor pan, exhaust system, brackets, parking brake cables. These corrosive effects, however, can be reduced by periodic hosing of the underbody with plain water whenever the vehicle is being washed. In geographic areas having a heavy concentration of corrosive materials it is recommended that the complete underbody be inspected and washed at least once each year, preferably after a winter's exposure. Particular attention should be given to cleaning out underbody members where dirt and other foreign materials may have collected.

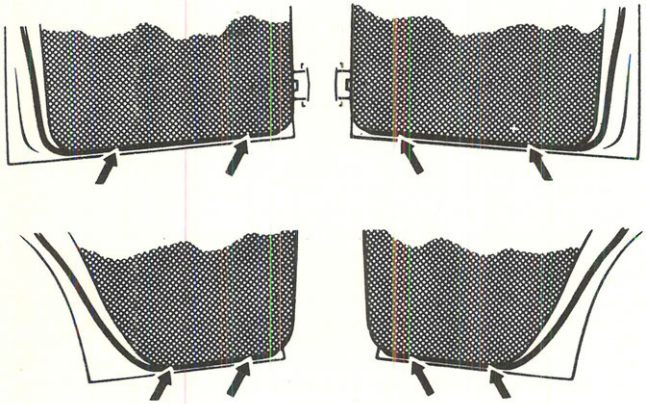
2. CLEANING VINYL TOP WHERE FITTED

The top should be washed frequently with neutral soap suds, luke-warm water and a brush with soft bristles. After the entire top has been cleaned, rinse with clear water to remove all traces of soap.

IMPORTANT: Do not use volatile cleaners or household bleaching agents on the vinyl top material.

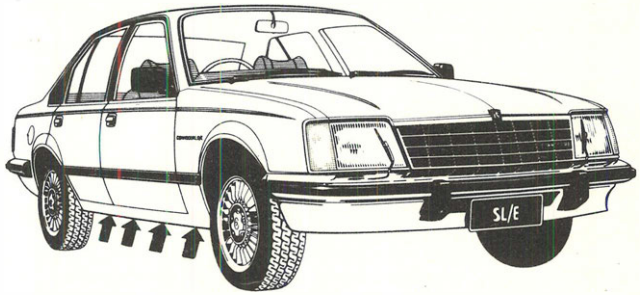
3. DOOR DRAIN HOLES

It is important that the drain holes at the bottom of the door panels are checked to make sure that they are free of dirt and foreign matter, which could trap water inside the panels. Clogged drain holes can be cleaned with a small screwdriver and these drain holes are angled back towards the rear of the vehicle. (Refer illustration below.)



4. ROCKER SILL VENTS

In all model bodies there are vents which should be regularly checked to see that they are clear of blockage, using a blunt ended instrument. These vents are formed as cut-outs in the sheet metal along the bottom edge of the rocker sill, being evenly placed between the front and rear wheel arches and face inward, towards the centre of the vehicle. (Refer illustration below.)



5. GLASS

Special care should be taken to avoid scratching the glass when it is being cleaned. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. An accumulation of these on the windshield can make night driving very unpleasant. Flush off any heavy mud deposits on the glass when washing the body, but leave the final cleaning and polishing until afterwards.
Each section of glass should then be washed in turn, making sure that the water, its container and the sponge are quite clean and free from grit. If the glass is very dirty, a little household ammonia mixed with warm water will help. Clean old linen cloth is better than new material for polishing glass.

INSECT SPOTS

Insect spots on the paint finished parts of the vehicle can be easily washed off by using a solution containing 2 litres of water in which approx. 220 grams of baking soda (Bicarbonate of Soda) has been dissolved. Flush the washed parts with clean water. After washing and drying, park the vehicle in a shaded area.

WASHING

The acrylic lacquer finish on your vehicle is superior to ordinary lacquers and will stay bright and new looking for years with little or no polishing, provided it is given a reasonable amount of regular washing to keep off road grime.

To preserve the original paint finish of the vehicle, it is essential that it is kept clean by frequent washing. Washing not only removes dirt and road grime that settles on the vehicle, but also dilutes acids which accompany such grime, in particular, salt from air or sea spray encountered in coastal areas which often become trapped in crevices. Tree sap, road tar, excretion from insects and industrial fall out often contain harmful chemicals and other foreign matter that may permanently damage the paint finish of the vehicle. These should be removed without delay, using an effective removal agent.

REGULAR WASHING

If the vehicle is in continuous use, it should be washed at least once a week with either cold or warm water (preferably running water), using clean chamois leathers, sponges or rags free from dirt or grit likely to scratch the paint finish. It is good practice to first hose the vehicle to remove as much of the grit and grime as possible before swabbing the surface. Do not wash the vehicle under bright sunlight when high temperatures are being experienced, as this will result in a streaky, watermarked finish.

AC Delco Wash and Wax (Part No. M37226) loosens road grime to make washing easier and leaves paint shining clean.

NOTES:

1. Calcium chloride and other salts, road oil and tar, tree sap, chemicals from factory chimneys and other foreign matter may damage any known automobile finish if allowed to remain in contact with the paint film.

2. Some chemical cleaners used for removing road oils and tars from painted surfaces have been found to be detrimental to acrylic finishes. When purchasing a cleaner, polish or wax, ensure that it can be safely used on an acrylic finish.

3. Grease and oil, and even tar if it's fresh, can be removed from the finish with a little Kerosene or White Spirits. As a precaution against staining, wash and polish as soon as possible the area from which the foreign matter has been removed.

IMPORTANT: If petrol is spilt on the paint finish when refilling, owners are advised to ensure that it is flushed off with clean water immediately. The reason is that petrols currently in use have a tendency to stain or soften new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.

PAINT WORK INSPECTION

Regular inspection of the vehicle should be made for scratch marks, cracks or damaged areas, all of which could develop rust and thus affect paint finish. Any deep scratches, cracks or breakdown in the finish should be repaired without delay. Care should be taken to ensure that any rusting is counteracted immediately, otherwise rust "creep" will extend beyond the damaged area. This applies particularly in sub-tropical areas or coastal districts, where the moist or salt-laden atmosphere accelerates rusting if it is allowed to develop through neglect. The paint finish of the vehicle gives a very high degree of protection against the weather, but it should be realised that wear and deterioration occur when the vehicle is exposed to elements for prolonged periods.

The vehicle therefore should be garaged whenever possible.

CHROMIUM PLATED PARTS

Generally, a rub with a clean soft cloth will be all that is necessary to remove dust from the chromium plated parts. However, if the chromium is covered with dead insects or mud, it should be washed with warm soapy water and then cleaned with AC Delco Polishing Liquid (Part Number M37221). This polish should also be used if the chromium shows signs of tarnishing. Do not use ordinary metal polishes as they may contain abrasives which would ruin the plating.

POLISHING

Even though the acrylic lacquer finish on your vehicle is more durable than ordinary lacquers, under certain conditions you may wish to polish your vehicle to provide maximum protection against road dirt and industrial fall out etc. Also, the application of a polish may be required to remove foreign matter which is not normally removed from vehicles by washing. Over a period of time, such foreign matter may build up on the paint surface to the detriment of its overall appearance.

Do not attempt to apply a polish without first washing to remove existing loose grit, surface dirt, dust or grease, etc.

Either AC Delco Polishing Liquid (Part No. M37221) or AC Delco Polishing Cream (Part No. M37220) will quickly and easily impart a deep, rich shine when used as directed on the container.

TYRES

Sponging with cold water is all that is necessary for normal cleaning of the tyres. Oil and grease can, and should, be removed with soap and water or detergent. For tar or other substances, a mild abrasive, such as mechanics' hand soap or kitchen cleaning powder, may be used if necessary. Thoroughly wash the tyres with water to finish. Petrol must not be used for cleaning tyres.

New Tyre look can be restored by using Tyre Black.

GM REPLACEMENT PARTS AND ACCESSORIES

GM Parts & Accessories Division of General Motors-Holden's Ltd. is established to distribute GM Parts through Authorized GMH Dealers located throughout the Commonwealth from whom you can obtain new parts as required.

GM Parts are manufactured to the high standards of quality established for General Motors-Holden's vehicles—to the correct specifications and of the same materials as the original parts on your vehicle. They are, therefore, guaranteed, and it is definitely to your interest to specify them.

SECTION—5 SERVICE AND MAINTENANCE

ENGINE

CAUTION: As with any machinery, extreme care should be taken when performing any inspection, maintenance, or repairs so as to prevent accidental injury. Improper or incomplete servicing could also result in vehicle operational problems which may lead to serious personal injury, or damage to the vehicle. Should you have any doubts about performing any operation, have it performed by a qualified workshop such as a GMH Dealer.

FUEL REQUIREMENTS

The vehicle is designed to operate on a good quality clean fuel. The major Australian Oil Companies produce their petrol according to the following ratings:
Regular (Std.) Grade: 89 Petrol Research Octane Rating.
Premium (Super) Grade: 98 Petrol Research Octane Rating.
(Refer to page 87 for the correct engine octane rating.)
Use of a fuel which is too low in anti-knock property will result in 'Detonation' (a metallic rapping noise generated during the combustion process). If 'Detonation' persists, consult an authorized GMH Dealer. Continued operation of an engine which exhibits symptoms of 'Detonation', may result in damage for which General Motors-Holden's is not responsible under the terms of the Warranty.

INITIAL OIL FILL

A high quality SE oil was installed in your engine at the factory. It is not necessary to change this factory-installed oil prior to the recommended normal change period. However, check the oil level more frequently during the running-in period since higher oil consumption is normal until the piston rings become seated.

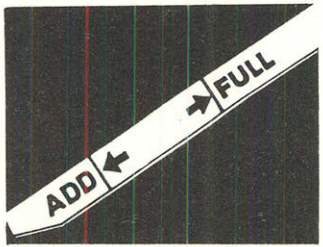
NOTE: Non-detergent and other low quality oils are specifically not recommended. Only the use of SE engine oils and proper oil and filter change intervals assure you of continued proper lubrication of the engine.

MAINTAINING OIL LEVEL

The oil level indicator is marked ADD and FULL. The oil level should be maintained between the two markings, neither going above the FULL marking nor under the ADD marking. Check the oil level frequently and add oil when necessary.

To check the oil level accurately, the vehicle must first be on level ground and the engine should be stopped for at least ten minutes. Checking the oil level too soon after stopping the engine will not allow sufficient time for oil, which has circulated to the upper parts of the engine, to drain back into the engine oil pan, and consequently, a false low reading will be obtained. Topped up under these conditions will result in the oil pan being over-filled.

Remove the indicator, wipe it clean with clean cloth or paper before reinserting if firmly. Pause for a second then withdraw the indicator to check the reading of the oil level.



The distance between the ADD and FULL marks represents approximately 1 litre on all engines. Oil level should be checked more often during the running-in period since somewhat higher oil consumption could be experience until piston rings become seated.

OIL CONSUMPTION

In many cases, it is erroneously thought that engines should not use any noticeable amount of oil between oil changes. In actual fact every internal combustion engine should use a certain amount of oil to act as a lubricating and cooling agent especially during the running-in period.

There are several factors that contribute to oil consumption, apart from mechanical malfunction, that should be noted, and these are: the type of oil, the seating of piston rings, the oil level, and the conditions under which the vehicle is operated.

RUNNING-IN

The initial factory-fill oil should remain in the engine for the recommended period. (Refer this section.) Oil consumption may be high during the running-in period.

LUBRICATION

An engine is dependent on oil to lubricate the cylinder walls, pistons, rings and valve stems. A film of oil is left on the cylinder walls and burned on the next firing stroke while the film on the valve stems is drawn into the combustion chamber and burned. These quantities, while small, explain why an engine does use some oil.

OIL LEVEL

Maintaining a proper oil level is also an important factor in controlling oil consumption. An overfull crankcase allows the reciprocating parts of an engine to splash oil on to the cylinder walls in quantities greater than the piston rings can control. This excess oil will be drawn into the combustion chambers and burned.

Overfilling the crankcase can result if the oil level indicator markings are not understood. (Refer to previous notes.)

DILUTION

Probably the most prevalent complaint of oil consumption comes from the motorist whose vehicle is driven at below normal operating temperatures for long periods of time. The oil becomes diluted by fuel and moisture which settle in the crankcase, raising the oil level and creating a false reading on the oil level indicator. For example, in a vehicle that has accumulated 1500 kilometres of city operation and has consumed a normal amount of oil, the level may not have dropped from the FULL mark, due to dilution. If this vehicle is then driven for some distance at highway speeds on a warm day, the dilution elements evaporate, lowering the oil level and the motorist assumes the oil is being lost.

SPEED CONSUMPTION

Sustained high engine speeds will increase oil consumption because higher speeds increase engine temperatures which lower oil viscosity and allow more oil to reach the combustion chamber.

If it is considered that the above possibilities can be accounted for but excessive oil consumption appears to continue, then it is recommended that you discuss the situation with a GMH Dealer.

NOTE: Non-detergent and other low quality oils are specifically not recommended. The use of break-in oils, tune-up compounds, friction-reducing compounds and other supplemental additives are not recommended; their use will only increase operating costs.

REMINDER: The use of proper engine oils and observing oil change intervals are your best assurance of continued reliability and performance from the engine of your vehicle.

In the event of an operational problem, consult your GMH Dealer for advice before using supplemental additives.

OIL FILTER REPLACEMENT

The full-flow oil filter, with non-return check-valve, filters all the engine oil delivered by the oil pump. For this reason the interval of filter change is very important.

The oil filter should be replaced ever six months or 10,000 kilometres whichever occurs first, independent of oil change intervals.

Under prolonged dusty driving conditior s it is recommended that the oil filter be replaced more often.

NOTE: After the oil filter has been replaced, additional oil must be added:—

6 cylinder Engines—0.8 litre

8 cylinder Engines—0.8 litre

Always use AC brand of oil filters, for replacement purposes.

OIL CHANGE INTERVALS

(ONLY 'SE' GRADE OIL SHOULD BE USED.)

The engine oil change interval is dependent on the type of operation of the vehicle and on the climatic conditions in which it is operating. The chart given below indicates the change interval recommended for normal operating conditions.

NORMAL OPERATING CONDITIONS

Prevailing Daytime Temperature	Regular Oil Change Interval
ABOVE 10°C	EVERY 6 MONTHS OR 10,000 km —WHICHEVER OCCURS FIRST.
BELOW 10°C	EVERY 1 MONTH OR 5000 km —WHICHEVER OCCURS FIRST.

ABNORMAL OPERATING CONDITIONS—EVERY 1 MONTH OR 5000 km

Under prolonged dusty conditions it is recommended that oil changes be made more often than shown in the table. Long runs at high speeds under high ambient temperatures with the resultant high engine operating temperatures, may oxidize the oil, forming sludge and varnish. While no definite drain intervals can be recommended under these conditions, they should be more frequent than under normal driving conditions.

However, owing to present day operating conditions, more vehicles are at the other extreme, that is, they are driven so that they seldom have the opportunity to attain and maintain efficient engine operating temperatures. This applies to city and suburban driving, where short distances are travelled. Under severe conditions such as these, sludge forms in the engine more readily thus necessitating more frequent oil change intervals.

IT IS RECOMMENDED THAT YOU SEE YOUR GMH DEALER FOR ADVICE ON THE FREQUENCY OF OIL AND FILTER CHANGES UNDER UNUSUAL DRIVING CONDITIONS.

ENGINE OIL VISCOSITY GRADES

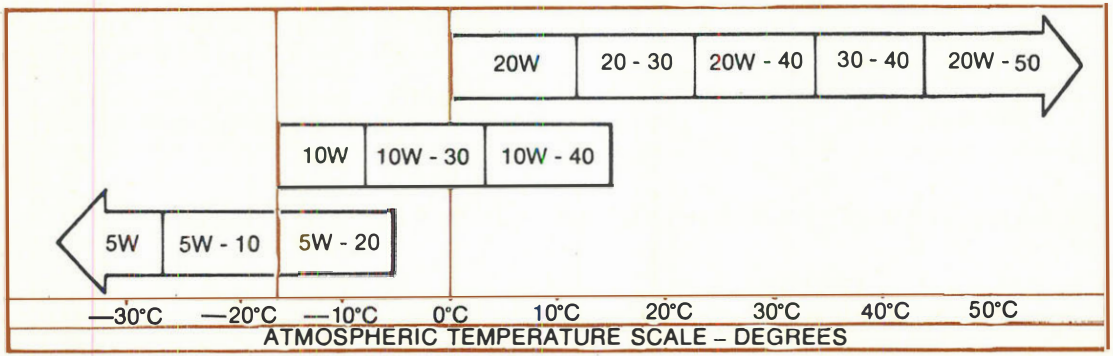
(ONLY "SE" GRADE OIL SHOULD BE USED)

The grade of crankcase oil should be selected to give the best performance under the climatic and driving conditions in the territory in which the vehicle is driven. When the crankcase is drained and refilled, the crankcase oil should be selected, not on the basis of the existing temperature at the time of the change, but on the atmospheric temperature range anticipated for the period during which the oil will be used.

During warm or hot weather, an oil which will provide adequate lubrication under high operating temperatures is required.

During the colder months of the year, an oil which will permit easy starting at the lowest atmospheric temperature likely to be encountered, should be used.

The Chart below will serve as a guide in selecting the proper S.A.E. viscosity grade of oil.



NOTE: Use one of the following S.A.E. Grades: 20-30; 20W-40; 30-40 for sustained high speed driving.

SEAT BELTS

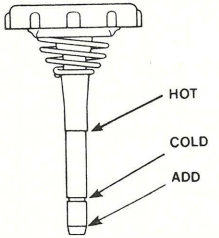
In the interest of safety seat belts should be checked regularly. Your Dealer will inspect and test the belts for you as part of the normal Guardian Maintenance Service. Never attempt to modify or change the seat belt away from the original specification as this will affect the operation of the belts and reduce their effectiveness, in preventing injury, in an accident.

POWER STEERING

At each oil change period the fluid level in the pump reservoir should be checked using the fluid level indicator which is attached to the filler cap. This operation can be carried out when the fluid is either cold or hot.

NOTE: When checking the fluid level the engine must be stopped with the front wheels in the straight ahead position. If the reading is taken before vehicle is operated (i.e. when the fluid is cold) the fluid level should be at the COLD mark on the indicator. If the reading is taken after the vehicle has been operated for at least 10 to 15 minutes (i.e. when the fluid is hot) the fluid level should be at the HOT mark on the indicator.

After checking the fluid level and it is found to be at or below the ADD mark on the indicator use DEXRON II automatic transmission fluid to raise the level to the appropriate mark as described above.



TRANSMISSIONS

MANUAL TRANSMISSION

Every six months or 10,000 kilometres, whichever occurs first, check the lubrication level and add oil if necessary to fill the transmission to the level of the filler plug hole (refer to page 78 for recommended oil specification).

AUTOMATIC TRANSMISSION

FLUID RECOMMENDATION

Use automatic transmission fluids identified with the mark DEXRON II, available from your GMH Dealer.

Check the fluid level at each service. To make an accurate fluid level check:

1. Drive the vehicle several kilometres, making frequent starts and stops, to bring the transmission up to normal operating temperature approximately 80°-90°C.
2. Park the vehicle on a level surface.
3. Place the selector lever in "Park" and leave the engine running.
4. Remove the dipstick and wipe it clean.
5. Reinsert the dipstick until the **Cap seats.**
6. Remove the dipstick and note the reading.

If the fluid level is at or below the ADD mark, add sufficient fluid to raise the level to the FULL mark—.5 litres raises the level from ADD to FULL. **Do not overfill.**

Under normal driving conditions, the transmission fluid should be changed ever 24 months or 40,000 kilometres. If your vehicle is driven extensively in heavy city traffic during hot weather, or is used to pull a trailer, change the fluid every 12 months or 20,000 kilometres. Likewise, operators of vehicles in commercial use such as taxicabs, hire vehicles or patrol vehicle services, where the engine idles for long periods, should change fluid every 12 months or 20,000 kilometres.

SERVICING

As all adjustments, cleaning and servicing, of automatic transmissions requires specialized equipment and knowledge it is recommended that these operations be performed by an authorized GMH Dealer.

REAR AXLE

Every six months or 10,000 kilometres, whichever occurs first, check the lubrication level and add oil if necessary to fill the rear axle to the level of the filler plug hole (refer to page 78 for recommended oil specifications).

COOLING SYSTEM

The function of the cooling system is to keep the engine at its most efficient operating temperature under all driving conditions. Therefore care and proper servicing of the cooling system is essential to maintain its maximum efficiency.

IMPORTANT—CORROSION PROTECTION

For maximum corrosion protection of the cooling system it is essential that water of a high purity be used in conjunction with an approved corrosion inhibitor.

In many areas of Australia, particularly in areas of low rainfall where water with high mineral or chemical content is common, rain water or distilled water must be used for top-up and complete fill purposes.

Where other water, such as borewater, has been used in an emergency, immediately it is possible, drain and flush the cooling system and refill using clean water and the recommended corrosion inhibitor.

Ensure that the correct mixing instructions are observed when adding the corrosion inhibitor.

RADIATOR PRESSURE CAP

With the radiator pressure cap fitted, the cooling system can function at a temperature in excess of 100°C without boiling.

CAUTION: Therefore, if the cooling system is hot, the radiator cap must not be removed quickly—it should be rotated slowly to the first stop, which permits the pressure to release slowly through the overflow pipe. The cap must not be removed completely until all the pressure is released, consequently, it is advisable to cover the cap with a cloth as protection against steam. Unless this precaution is taken the coolant may boil when pressure is released and some of it be ejected from the filler neck of the radiator, causing injury to persons or damage to the vehicle finish.

Never pour cold water into the radiator when coolant is extremely low and the engine is hot. Such a sudden change in temperature may result in cracking the water jackets. It is advisable to allow the hot engine to cool for 10 to 15 minutes, then run the engine at idle speed while slowly adding water.

REPLACING THE RADIATOR CAP

To effectively seal the radiator the following procedure should be adhered to. Locate the tabs on the cap in the filler neck cut-outs, press downwards and keeping the pressure on, rotate clockwise until the cap will not rotate further.

FILLING THE COOLING SYSTEM

With the engine cold fill the radiator until coolant enters the reservoir via the overflow outlet tube. Fit the radiator pressure cap and start the engine.

During the warm-up period coolant will be expelled from the radiator into the reservoir due to expansion.

When the engine is at normal operating temperature check the coolant level in the reservoir and, if required, top up to the "MAX. Level when hot" position shown on the reservoir. SUBSEQUENT topping-up of the reservoir, with the engine hot, will ensure that the radiator is always full without having to remove the radiator pressure cap.

DRAINING AND FLUSHING

Every 6 months or 10,000 kilometres, drain and refill the cooling system and add inhibitor. (Refer next page.)

To completely drain the cooling system, carry out the following steps:

RADIATOR. Loosen the cap. Disconnect the lower radiator hose at the rear of the radiator after loosening the hose clamp.

ENGINE—6-Cyl. Remove the hexagon plug on the L.H.S. towards the rear of cylinder block.
8-Cyl. Remove the hexagon head plugs midway along each side of cylinder block, above oil pan flange.
REMINDER: Replace and properly tighten all drain points before refilling.

Do not use cleaning chemicals to loosen scale unless the cooling system is afterwards thoroughly reverse flushed, otherwise loosened scale will clog the radiator water passages.

For complete removal of loose sediment and sludge from the radiator and water jacket, pressure flushing with an air and water gun is recommended, and as this method of flushing requires special equipment we suggest you have this work carried out by your GMH Dealer.

CAUTION: The radiator coolant contains a corrision inhibitor or anti-freeze, both of which are toxic. Should an emergency arise where drinking water is required, the radiator coolant must not be consumed under any circumstances. In addition, care should be taken to prevent the fluid coming in contact with clothing or the exterior finish of the vehicle as it could cause a stain. If any fluid is spilled, flush immediately with clear water.

CORROSION INHIBITOR

HN-1109 (PART No. 2822485)

It is recommended that engine coolant system corrosion inhibitor HN-1109 be added as follows after regular draining:
6 Cylinder Engines—120 ml.
8 Cylinder Engines—140 ml.
These quantities are only applicable when water of a high purity is used.

MIXING INSTRUCTIONS

The recommended quantity, for the particular engine, should be added to a bucketful of water and stirred before pouring the water into the radiator. Then complete the filling of the cooling system with water. It is not recommended that water be added to a container, into which the inhibitor has first been poured.

COLOUR INDICATIONS

Initially, the inhibitor will cause a pale transparent green colouration to the water. After some time the colouration may change to greenish-yellow. In either case, these colours indicate that the cooling system is being protected by the inhibitor.

NEW RADIATOR PROCEDURE

Where a new radiator is fitted, use inhibitor HN-1109 and drain after the first 6 months or 10,000 kilometres.

USE OF ANTI-FREEZE FLUID

The recommended anti-freeze fluid is permanent type (ethylene glycol) GM 1899M, which can be obtained through a GMH Dealer who, before adding, should make a thorough check of the cooling system.

NOTE: Anti-freeze provides the action of a corrosion inhibitor, eliminating the necessity for a separate additive.

Where a vehicle is to be parked overnight or operated for any length of time in regions where temperatures of 0°C or below are encountered (e.g.—snow areas), the recommended brand of anti-freeze fluid should be used in the cooling system in accordance with the instructions specified.

COLD WEATHER DRAINING

If the recommended brand of anti-freeze fluid is not available, the radiator, and cylinder case, MUST be drained before parking to prevent the possible bursting of the radiator, or cracking of the cylinder block which can occur if the coolant freezes.

CAUTION: Draining of the main radiator and cylinder case assembly will not drain the water out of the heater radiator; therefore, the use of Anti-freeze will eliminate the risk of a damaged heater core.

BRAKE MASTER CYLINDER

Every 6 months or 10,000 kilometres check the fluid level in the master cylinder. The fluid level visible through the reservoir should be maintained between the MIN and MAX level markings. If fluid is between these levels do not remove master cylinder cap. If the master cylinder requires constant topping up it could indicate that a malfunction exists in which case it should be immediately brought to the attention of your servicing GMH Dealer.

BATTERY (12 Volt)

The battery is located in a metal cradle mounted on the left hand fender skirt in the engine compartment and the negative (—) terminal is "grounded". Never disconnect the battery or generator when the engine is running. Always connect Positive (+) to Positive (+), Negative (—) to Negative (—) whenever a battery charger is used.

FLUID LEVEL

The battery fluid level should be maintained at 1 cm above the plates by adding distilled water. Distilled water will be required more frequently in summer than in winter. It is a good plan to check the fluid level at about 1 month intervals in Summer and two months in Winter. When long daylight runs are made, water may need to be added still more frequently. Do NOT overfill, particularly when cold, as subsequent operation at higher temperatures and on long distance driving may cause loss of acid. Keep all battery terminals clean and tight.

When cleaning batteries, wash first with a dilute ammonia or soda solution to neutralize any acid present. Then flush off with clean water. Care must be taken to keep the vent plugs tight so that the neutralizing solution does not enter any cells. Dry off the affected area of the body, battery mounting and retainer, then repaint with paint resistant to sulphuric acid. After reconnecting battery cables, apply a thin coating of petroleum jelly to the battery posts and cable clamps to help retard corrosion.

CAUTION: Never expose a battery to open flame or electric spark—battery action generates hydrogen gas which is flammable and explosive. Don't allow battery fluid to contact skin, eyes, fabrics, or painted surfaces—battery fluid is a sulphuric acid solution which could cause serious personal injury or property damage. Flush any contacted area immediately with water. Wear eye protection such as industrial safety spectacles or goggles when working on or near a battery. Remove rings, metal watchbands and other metal jewellery before jump starting or working around a battery, and be careful in using metal tools—if such metal should contact the positive battery terminal (or metal in contact with it) and any other metal on the vehicle, a short circuit may occur which could cause personal injury. Batteries and battery acid should always be kept out of the reach of children.

AIR CLEANER

The air cleaner element should be removed and cleaned every 6 months or 10,000 km and replaced every 24 months or 40,000 km. If the vehicle is operating in extremely dusty conditions for any length of time the air cleaner should be cleaned more frequently.

Ensure that the thermal vacuum signal hose is connected to the carburettor and air cleaner when re-installing the air cleaner.

CAUTION: Do not remove the engine air cleaner unless temporary removal is necessary during repair or maintenance of the vehicle. When the air cleaner is removed backfiring can cause fire in the engine compartment.

ENGINE VENTILATION FILTER

The engine ventilation filter is located in the air cleaner cover.

Every 12 months or 20,000 kilometres clean the engine ventilation intake filter with kerosene or a suitable solvent. Dry with compressed air.

EVAPORATIVE CONTROL SYSTEM

Every 24 months or 40,000 kilometres check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove canister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter in lower section of canister.

WINDSHIELD NOTES

WINDSHIELD CLEANLINESS

It is imperative, at all times, that the windshield surface be maintained in a clean condition so that the wiper blades may be as effective as possible in wiping clean the surface.

Use of the windshield washer and Optikleen washer solvent will assist in removing dirt and dust particularly when driving at a time when no rain is falling; however, every opportunity should be taken to wipe or wash the windshield by hand (most Service Stations have such a service today as a courtesy item).

Abrasive materials must never be used to remove a build-up of road scum, etc., as a scratched windshield will cause difficulty in achieving proper vision, particularly in night driving. Therefore, after the windshield has been cleaned with a wet sponge etc., it should be wiped dry with a soft, lint free cloth or even a ball of newspaper.

WIPER WASHER OPERATIONS

WIPER BLADES—CLEANING

Much of the oily road scum thrown up onto the windshield glass, causing smearing when the wiper is switched on, transfers onto the wiper blade. Many owners, whilst they methodically clean the windshield glass, omit to clean the wiper blades and consequently smearing of the glass re-appears immediately the wiper blades are set in motion.

The blades can be cleaned by simply lifting them off the windshield glass and then using warm water and a recognised washing fluid. If so desired, the wiper blade can be removed from the arm for cleaning purposes by simply disengaging it from the arm in accordance with the following instructions:—

1. Lift up tab at the end of the arm and remove blade sideways.
2. To replace, slide the blade pin into the hole in the arm clip, noting an audible click.

WASHER RESERVOIR

A plastic reservoir containing liquid for the windshield washer is mounted in the engine compartment. It is suggested that when checking the radiator coolant level, the washer reservoir be checked also. For a crystal clear view Optikleen Washer Solvent (Part Number M37068) can be used by adding from the graduated container, the recommended proportion.

CAUTION: Do not operate the wiper blades by hand as this may damage the wiper drive mechanism.

In dry conditions, if the wiper blades are used to clean dust and dirt from the windshield always use the washer system to wet the windshield. Ensure that the windshield washer reservoir is checked regularly all the year round.

Should the wiper blades be frozen to the windshield, it is imperative that they be lifted off and freed by hand before switching on the windshield wiper system.

LUBRICANTS

CHASSIS

ENGINE OILS
Use oil to HN1455 specifications. (Refer Page 72 for grades and application.)

POWER STEERING FLUID
DEXRON* Automatic Transmission Fluid, GM9985286

MANUAL TRANSMISSION OIL
Multigrade to HN1046 specification 80-90 viscosity rating.

AUTOMATIC TRANSMISSION FLUID
*DEXRON II automatic transmission fluid GM9985286 only should be used for topping up or service refills.

*DEXRON is a registered trademark of General Motors Corporation.

REAR AXLE OIL
Multipurpose Hypoid gear oil to specification—in this order of preference—HN1386, HN1187, HN1181. Limited Slip Differential—where fitted use oil to GM HN1561 specification only.

FRONT SUSPENSION AND STEERING BALL JOINTS
E.P. Type Lithium grease. Always ensure that a high quality grease of suitable type is used.

FRONT WHEEL BEARINGS
Disc Brakes—Grease to HN1227 specification.

BRAKE FLUID
Fluid to GM 4653M Type 450 specification.

CONTROL SYSTEMS
Brake and Clutch Pedal Pivots, Clutch Linkage, Transmission Control Linkage, Accelerator Pivots, Parking Brake System, Pivot and Guides.

Grease to HN1225 (LG-2) specification.

BODY

Normal use of a vehicle causes metal-to-metal movement at certain points in the body. Noise, wear and improper operation at these points will result when a protective film of lubricant is not provided. Servicing and lubrication of the undermentioned points should be an integral part of the lubrication service and should be checked out as required every 6 months or 10,000 kilometres.

POWDERED GRAPHITE
(Apply through key aperture) Door Lock Cylinder
Instrument Panel Compartment Lock Cylinder
Rear Compartment Lid Lock Cylinder
End-Gate Lock Cylinder

NON-STAINING GREASE OR ZINC OXIDE GREASE
(Use sparingly on parts likely to be contacted by clothing)
Engine Hood Catch and Lock
Rear Compartment Hinges
Engine Hood and Door Hinges
End-Gate Locking Mechanism and Hinges

SOLIDOIL (Use sparingly on working surfaces)
Door Lock Striker Bolt
End-Gate Striker Plate and Plungers

IMPORTANT: Remove all lubricants that may have dropped or spread onto the external paint finish.

TYRES

TYRE PLACARD

Each vehicle has an appropriately designed placard adhered to the inside surface of the instrument panel compartment lid. By taking note of the tyre size fitted to the vehicle, the correct inflation pressure for a particular load application can be selected.

TAXI NOTE: Where a vehicle has been ordered as a taxi, an alternative location is provided for the placement of a tyre placard.

At no time should the tyre placard be removed—it is placed there as part of the Australian Design Rule requirements.

NOTE

The tyre placard lists tyre and rim combinations that are approved for fitment to the vehicle. However, for any particular tyre size designation, tyres with a higher speed rating, (refer note on tyre speed, page 82) and/or with a maximum load rating in excess of that listed on the placard are also acceptable, provided they are fitted to the nominated rim size. For example:—

TYRE SIZE DESIGNATION		MAXIMUM LOAD RATING	
Listed	**Others Acceptable**	**Listed**	**Others Acceptable**
CR78S14	CR78H14	558 kg	Greater than 558 kg
CR78H14		599 kg	Greater than 599 kg
CR70H14		599 kg	Greater than 599 kg
BR60H15		558 kg	Greater than 558 kg

MAXIMUM TYRE LOAD RATING

Shown on the tyre. (Refer to the tyre placard for pressure requirements.)

IDENTIFICATION OF RADIAL PLY TYRES

Tyres so constructed have Radial marked on the tyre. Because of the stiffening belt under the tread, the ride characteristics of Radial Ply Tyres may be somewhat different from that experienced with conventional tyres. The under-inflated appearance of the radial tyre is normal. Follow the inflation pressure recommended on the Tyre Placard. Radial ply tyres and conventional tyres must not be mixed.

TYRE SPEED RATING

The maximum Tyre Speed Rating is indicated in the designation of tyre by a letter—

RADIAL PLY TYRES:—

W (wintertread) indicates a speed rating of 135 km/h.
— indicates a maximum speed rating of 170 km/h.
S indicates a maximum speed rating of 180 km/h.
H indicates a maximum speed rating of 210 km/h.
Examples: CR78S14, CR70H14, CR70H14.

TYRE SIZES

Some sizes listed may not be available as Regular Production Options. However, they may be fitted as replacements in an approved manner, provided that the rim/tyre size combination is shown on the Tyre Placard.

TYRE CARE

Tyres should be checked weekly or twice weekly under abnormal conditions, for proper inflation pressure, wear, and damage. The following information will assist you in properly caring for your tyres.

OVER INFLATION
Hard Ride, Poor Traction, Fabric Breaks

UNDER INFLATION
Runs Hot, Loosens Cords, Blowouts, Uneven Wear

PROPER INFLATION
Good Ride, Good Traction, Good Wear

TYRE PRESSURE RECOMMENDATIONS

1. Tyre pressures should be checked when the tyres are cold, i.e. when the vehicle has been inoperative for 3 hours or more, or driven less than 2 kilometres.
2. Tyre inflation pressure may increase as much as 30 kPa when hot, i.e. after the vehicle has been driven 15 kilometres or at speeds of more than 95 km/h. Do **not** bleed or reduce pressures to compensate for this build up.
3. For continuous high speed operation, over 120 km/h, increase tyre inflation pressure 30 kPa above the recommended pressures up to maximum of 275 kPa cold pressure. Sustained speeds above 120 km/h are not recommended when a pressure adjustment would require pressures greater than the maximum pressures.
4. To maximize the protection of tyres on vehicles operating for prolonged times over rough roads i.e. particularly in outback conditions. It is recommended that a cold tyre inflation pressure of 275 kPa is used.
5. Always use a tyre pressure gauge when checking pressures as the appearance of a tyre can be deceiving, depending on vehicle loading.

NOTE: Do not forget the spare tyre: It is advisable to maintain the spare at the **maximum recommended tyre inflation pressure** listed on the placard.

TYRES AND FAST MOTORING

It should be noted that all the maximum speed recommendations require the following:

The tyres must be in

1. good condition, the walls and treads being free of cuts and abrasions,
2. treads must not be excessively worn, tread pattern should still be visible over the entire tread surface,
3. the tyres should not be retreaded or regrooved,
4. the tyre pressures should be as shown on the Tyre Placard for loading and speed operation.

SUGGESTED GUIDE FOR CHECKING HOT TYRES—

As a guide for checking warm/hot tyre 'under all conditions', allow pressure to read 10% above that recommended for cold tyre rounded off upwards to nearest ten units in kPa.

TYRE TRACTION

CAUTION: A decrease in driving, cornering, and braking traction occurs when water, snow, ice, gravel, or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This phenomenon, known as hydro-planing, may cause partial or complete loss of traction, which adversely affects vehicle control and stopping ability. To reduce the possibility of traction loss, the following precautions should be observed:

1. Reduce speed levels during rainstorms or when roads are slushy and if the road has standing water or puddles.
2. Replace tyres when tread wear indicators are visible.
3. Check that tyres are properly inflated for speed range and vehicle loading.

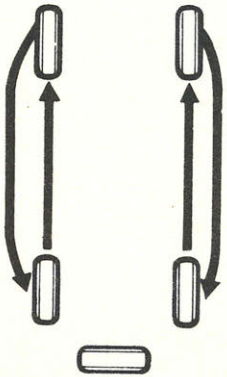
RECOMMENDATIONS ON TYRE ROTATION

Front and rear tyres perform different functions on a vehicle (steering versus propelling the vehicle). Due to their function, front tyres normally experience shoulder wear whilst rear tyres are more prone to crown wear. Tyre rotation may be used to equalize wear between front and rear tyres. (Refer diagram below.)

Tyres should be inspected at the 5000 kilometre inspection and adjustment and then at 10,000 kilometre intervals. If no abnormal or uneven wear is detected, and you have not experienced any vibration problems, the tyres need not be rotated or balanced.

NOTE: Tyres should be rotated prior to regular inspections, if irregular wear develops, ensuring that the reason for the problem is corrected simultaneously.
After rotation, tyre pressures should be adjusted in accordance with the recommendations on the tyre placard.
If spare wheel must be used to replace a damaged or excessively worn tyre, a straight replacement should be carried out.

RADIAL TYRES



TYRE WEAR

Uneven or abnormal tyre wear is usually the result of incorrect inflation pressure, improper wheel alignment, wheels being out of balance, or poor driving habits. Over- and under-inflation, incorrect toe-in or camber and fast cornering produce different types of abnormal wear which can be diagnosed by any GMH Dealer. The original equipment tyres incorporate built-in tread wear bars which act as indicators to assist in determining when the tyres have worn to the point of needing immediate replacement.

CAUTION: When the wear bars appear, tyre replacement should not be delayed, in the interests of safety.

WHEEL BALANCE

Precise wheel and tyre balance is essential if smooth high-speed running and long tyre life are to be obtained. It is advisable to have the wheels and tyres statically and dynamically balanced by a GMH Dealer after every tyre replacement and as required during the tyre's life.

VALVE EXTENSIONS

Where supplied valve extensions are fitted to the tyre valve of each wheel. Air will be passed straight through from a pressure connection which can fit over the top of the stem. Also this item removes the need for a valve cap.

TYRE DAMAGE AND REPAIR

Tyres with cuts, splits or cracks deep enough to expose the fabric, should be replaced. Bulges also indicate internal damage, and these tyres should also be replaced. Tyres with doubtful damage should be removed from the wheel and examined by a competent person.

If a pressure loss occurs while driving, do not attempt to drive on the deflated tyre more than is necessary to stop safely. Driving even a short distance on a deflated tyre can damage it beyond repair.

When puncturing objects are removed, repairs will have to be made according to the recommendations of the tyre manufacturer.

It should always be remembered that a tyre which has been repaired will not be able to be operated safely at the rated maximum speed and due care should be taken.

When replacing tyres only the size, load range and construction type recommended on the Tyre Placard should be fitted. Use of any other tyre or tyre type may seriously affect ride, handling, speedometer/odometer calibration, vehicle ground clearance and tyre clearance to the body and chassis. The following should also be considered when replacing tyres:

1. To achieve best all round vehicle performance, radial bias-belted tyres or bias tyres should not be mixed on the same vehicle.
2. It is recommended that new tyres be installed in pairs and be fitted to the front.
3. When replacing only one tyre, it should be placed on the same axle as the tyre having the least wear, to equalize braking traction across the vehicle.
4. When replacing original tyres with another size which have a different outside diameter, the speedometer and odometer will be affected unless a different speedometer drive gear is used.

REPLACEMENT WHEELS

When replacing wheels for any reason, care should be taken to ensure that the wheels are equivalent to those removed in diameter, rim width and offset.

HEAVY TREADS

Caution must be exercised when using tyres with heavy treads, including tyres designed to gain traction in bad weather conditions. At sustained high speeds, this type of tyre will run at higher temperatures than standard tyres and consequently should only be operated within the limits recommended by the manufacturer.

Any doubts concerning the fitness of the tyres on your vehicle for the purpose you require should be referred to your GMH Dealer, who will be pleased to advise.

BULB REPLACEMENT

HEADLIGHTS

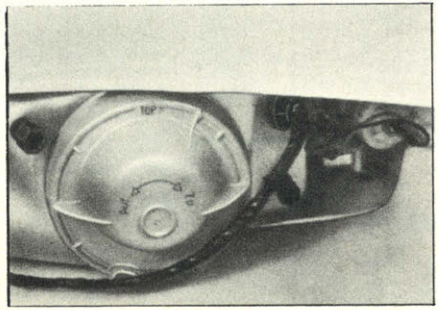
NOTE: Do not touch bulbs or reflectors with bare hands. Greasy fingers will cause stains which evaporate---eventually resulting in a dull reflector.
Grease spots on Halogen-bulbs will, within a short time, lead to bulb failure.
Inadvertently stained bulbs may be cleaned with tissue paper, or a clean, non-fuzzy cloth, using alcohol or white spirits.
Headlight Aiming is a safety item and should be carried out by your GMH Dealer, the adjusting screws are on both sides of each headlight back cover cap.

LIGHT BULB REPLACEMENT

HEADLIGHT HIGH/LOW BEAM:

Sedan and Wagon

1. Open engine hood and support. Remove protective plastic cover.
2. Remove plug socket and wire from lamp base.



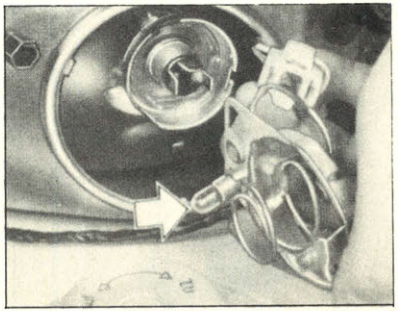
3. Remove cover cap by depressing against reflector, and turning counter-clockwise. Withdraw bulb from reflector housing.
4. Insert new bulb so that the lug at the bulb holder is lining up with the reflector notch.

Proceed in reverse sequence to removal.

PARKING LIGHT

1. Remove cover cap by depressing against reflector, and turning counter-clockwise. Plug socket and wire will not have to be removed.
2. Remove parking light bulb by twisting it out of the cover cap.
3. Insert new bulb so that both base pins lock.

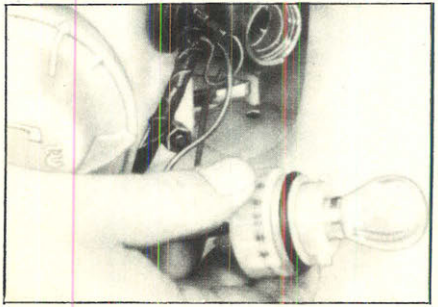
Proceed in reverse sequence to removal.



FRONT TURN SIGNAL LIGHTS:

1. Pull out lamp socket located in the engine compartment next to the headlight.
2. Lightly depress bulb and remove in a twisting motion out of the socket.

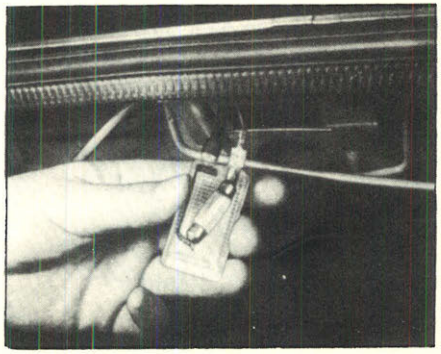
Insert new bulb, and proceed in reverse sequence to removal.



INSTRUMENT PANEL AND CONSOLE LAMPS

Replacement of these bulbs is recommended only by a GMH Dealer or a competent person as all wiring and associated attachments are prone to damage if not serviced correctly.

Below illustrations show the light bulb replacement of the courtesy lamp as well as the luggage compartment lamp.
They apply as well to the bulb replacement of the engine compartment lamp where fitted.



COURTESY LIGHT AND LOAD COMPARTMENT LIGHT.

1. Press lamp out of recess, using a screwdriver. Be careful not to damage headlining when removing courtesy light.
2. Unsnap bulb from clips by applying slight pressure toward clips.

Insert new bulb, and proceed in reverse sequence to removal. Make certain that lamp assembly is properly seated in place.

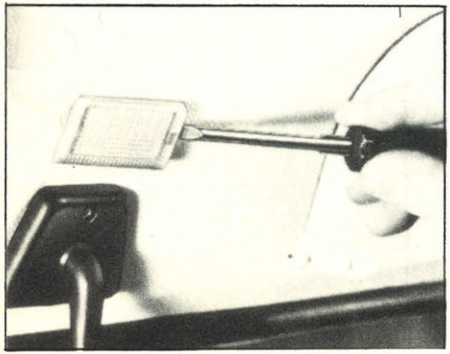
CENTRAL DOME LAMP (where fitted)

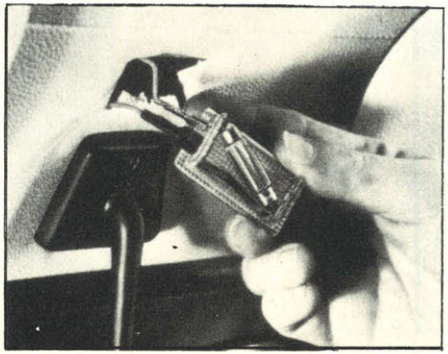
To remove, gently squeeze together the long sides of the plastic lens (not the plastic surround) to gain access to the bulb. The bulb is of the festoon type and can be removed by pulling it straight out from its retaining clips.

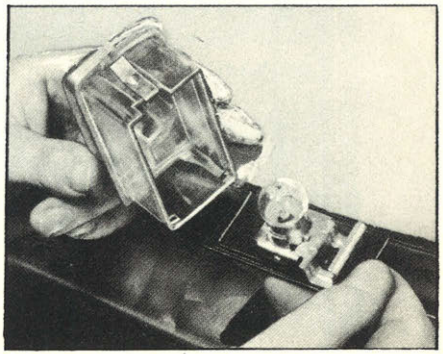
LICENCE PLATE LIGHT:

1. Press lamp housing up and out by using a screw driver.
2. Remove bulb base from housing by depressing the protruding lug.
3. Remove bulb from socket.

Insert new bulb, and proceed in reverse sequence to removal.





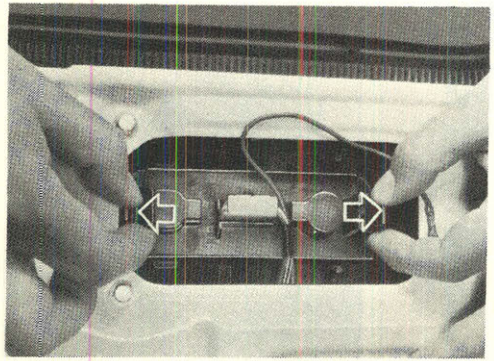


REAR TURN SIGNALS, STOP AND TAIL LIGHTS, BACK-UP LIGHTS

Sedan

1. Remove respective double-socket in the luggage compartment by pressing the two retaining lugs apart.
2. Remove bulb from socket. Bulb socket sequence from the outside to the inside: Turn Signal Light; Stop and Tail Light; Back-up Light.

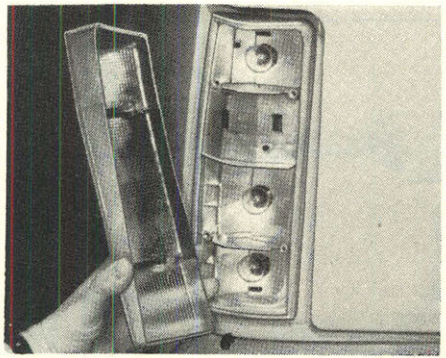
Insert new bulb, and proceed in reverse sequence to removal.



Wagon

1. Unscrew the four Phillips screws and remove the lens.
2. Slightly depress respective bulb and rotate to remove from socket. Bulb socket sequence from the top downwards is
   Turn Signal Light
   Stop and Tail Light
   Back-up Light.

Insert new bulb, and proceed in reverse sequence to removal.



FUEL ECONOMY

HOW TO IMPROVE IT

How you drive, where you drive, and when you drive; all have an effect on the distance that can be travelled using a given quantity of fuel. The attention you give your vehicle as far as maintenance and repairs are concerned, will also contribute to fuel consumption.

FUEL SELECTION:

(Refer to page 68.)

HARD ACCELERATION

Fuel can be conserved and engine and tyre life prolonged by avoiding unnecessarily hard acceleration.

STOP-AND-START DRIVING:

Frequent stops and starts during a trip really increases your fuel consumption. Plan your short trips to take advantage of through streets. Also, pace your driving to avoid unnecessary stops by observing traffic flow and traffic light co-ordination on the regular routes you use.

SPEED VERSUS CONSUMPTION:

Excessive speed on the highway raises your fuel consumption. Statistics show that you might save up to 20% on your fuel costs by driving at 80 km/h instead of 110 km/h.

ENGINE IDLING

An idling engine uses fuel. If you have to wait for more than a few minutes, turning off the engine will conserve fuel.

HARD DRIVING IN BUILT UP AREAS:

Energy is wasted as heat when braking. Hard driving up to stopping points is wasting fuel, as energy in the form of fuel is needed to accelerate again. This situation can often be avoided.

AIR CLEANER ELEMENT:

Your vehicle receives its power from a mixture of fuel and air, so it's important to replace the air cleaner element at the required intervals. A dirty air cleaner element reduces engine efficiency.

ENGINE TUNE:

Overall tuning (a check on timing, distributor points, spark plugs and emission control systems) can improve your vehicles fuel consumption. An "out-of-tune" engine cannot give good fuel consumption.

EXCESS WEIGHT:

Fuel consumption is related to the work the engine must do. The heavier the load, the more power it takes. Keep excess weight to a minimum.

TYRE INFLATION

Under inflation not only increases possibility of tyre damage due to increase in heat build-up, and causes needless wear of the tyres, but also wastes fuel. It's highly recommended to check tyre pressures every week, or as needed, for the loads carried. (Refer tyres see page 79.)

WHEEL ALIGNMENT:

Incorrect alignment has the effect of dragging the front tyres and causes premature tyre wear. It takes power to work against this extra load which consumes fuel.

AIR CONDITIONER OPERATION:

By using the vent ▲ setting, most of the advantages of the integrated air conditioning system can be obtained in cool and moderate temperature conditions while at the same time using the least amount of engine power.

SECTION—6 SPECIFICATIONS

SERIAL NUMBERS

V.I.N. PLATE

(VEHICLE IDENTIFICATION NUMBER)
Attached to the top centre of the radiator support panel under the engine hood.

VEHICLE SERIAL NUMBER

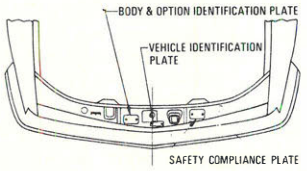
(CHASSIS NUMBER)
Stamped on the upper front panel, right hand side—access under the engine hood.

BODY SERIAL NUMBER PLATE

Attached to the top right side (driver's side) of the radiator support panel under the engine hood. Plate shows body styles, body serial number, paint and trim colour combination, paint number, Engine, Transmission and Axle Ratio Options.

SAFETY COMPLIANCE PLATE

Attached to the top left side (Passenger's side) of the radiator support panel under the engine hood. Shows vehicle Series, Model, Style, Month and Year of production, Vehicle Serial Number, approved seating capacity, and the Australian Design Rules to which the vehicle complies. (Refer illustration.)



ENGINE NUMBER PREFIXES

SIX CYLINDER
VD—2.85 litre
VM—3.3 litre—Low compression
VL—3.3 litre—High compression
Stamped on a pad above the engine mounting on the right hand side (Driver's side) of the engine.

EIGHT CYLINDER
VR—4.2 litre
VT—5.0 litre
Stamped on a pad on the left hand side (Passenger's side) at the front of the cylinder block above the engine mounting.

MODEL IDENTIFICATION

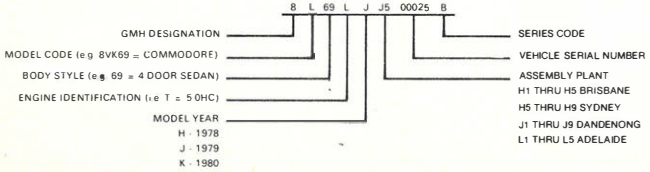
Model Range	Model Group	Style Number	V.I.N. Code Number
Commodore	8VK	69	8K69
Commodore Wagon	8VK	35	8K35
Commodore SL	8VL	69	8L69
Commodore SL Wagon	8VL	35	8L35
Commodore SL/E	8VX	69	8X69

VEHICLE DIMENSIONS (in millimetres)

ITEM		SEDAN			STATION WAGON	
		BASE	SL	SL/E	BASE	SL
LENGTH		4706	4706	4730	4732	4732
WIDTH		1722	1722	1736	1722	1722
HEIGHT		1370	1371	1370	1418	1466
WHEELBASE		2668	2668	2668	2668	2668
TRACK STEEL 14" WHEELS	FRONT	1451	1451	1451	1451	1451
	REAR	1416	1416	Not Applic.	1440	1440
	REAR DISC BRAKES	1424	1424	1424	1447	1447
TRACK ALLOY 15" WHEELS	FRONT	1449	1449	1449	Not Applic.	Not Applic.
	REAR	1414	1414	Not Applic.	,,	,,
	REAR DISC BRAKES	1422	1422	1422	,,	,,
TURNING CIRCLE:						
CURB TO CURB	MANUAL M	10.2	10.2	Not Applic.	10.2	10.2
	POWER M	10.8	10.8	10.8	10.8	10.8
WALL TO WALL	MANUAL M	11.0	11.0	Not Applic.	11.0	11.0
	POWER M	11.4	11.4	11.4	11.4	11.4
GROUND CLEARANCE		141.5	142.0	143.0	140.5	140.5

VEHICLE IDENTIFICATION NUMBER (V.I.N.)

The table below gives a breakdown of the V.I.N. and the meaning of each section.


8 L 69 L J J5 00025 B
GMH DESIGNATION
MODEL CODE (e.g. 8VK69 = COMMODORE)
BODY STYLE (e.g. 69 = 4 DOOR SEDAN)
ENGINE IDENTIFICATION (i.e. T = 5.0HC)
MODEL YEAR
H - 1978
J - 1979
K - 1980
SERIES CODE
VEHICLE SERIAL NUMBER
ASSEMBLY PLANT
H1 THRU H5 BRISBANE
H5 THRU H9 SYDNEY
J1 THRU J9 DANDENONG
L1 THRU L5 ADELAIDE

WHEEL NUT TORQUES

Recommended Wheel Nut Torque is 100-108 Nm. (75-80 ft. lbs.)

ENGINE DATA

ENGINE Designation*		2.85 Litre	3.3 Litre LC	3.3 Litre HC	4.2 Litre	5.0 Litre
Piston Disp. Nom.—Cu. Cms.		2838	3298		4142	5044
Comp. Ratio: 1 (Mean)		9.2	7.5	9.2	9.4	9.4
Petrol Research Octane Rating		98	89	98	98	98
Bore/Stroke mm		88.9 x 76.2	92.075 x 82.550		92.075 x 77.775	101.600 x 77.775
Taxable H.P. RAC or SAE		29.4	31.5		42.0	51.2
Kilowatts Din @ R.P.M.	Manual Trans.	64 @ 4000	57 @ 3400	66 @ 3600	Manual & Auto 87 @ 4000^{S}	114 @ 4000
	Auto Trans.		62 @ 3600	71 @ 3800	Manual & Auto 96 @ 4400^{D}	125 @ 4200
Torque NM Din @ R.P.M.	Manual Trans.	198 @ 2200	201 @ 2200	221 @ 2100	Manual & Auto 271 @ 2000^{S}	344 @ 2200
	Auto Trans.		192 @ 2200	213 @ 2000	Manual & Auto 275 @ 2400^{D}	352 @ 2600
Cylinder Numbering (Front to Rear)		1 2 3 4 5 6	1 2 3 4 5 6		RH Bank 1 3 5 7 LH Bank 2 4 6 8	
Firing Order		1 5 3 6 2 4	1 5 3 6 2 4		1 2 7 8 4 5 6 3	

* HC = High Compression LC = Low Compression ^{S} = Single Exhaust ^{D} = Dual Exhaust

CAPACITIES

ENGINE OIL

			Litres
6 CYLINDER—	Service Refill	(b)	3.3
	Add for Filter	(b)	0.8
8 CYLINDER—	Service Refill	(b)	4.0
	Add for Filter	(b)	0.8

MANUAL TRANSMISSION

4-Speed All Synchromesh		1.7

AUTOMATIC TRANSMISSION

TRIMATIC

Service Refill	—Approximate	(b)	1.7
Dry	—6 Cyl.	(a) (b)	6.1
	—8 Cyl.	(a) (b)	8.7

TURBO HYDRAMATIC

Service Refill—	Approximate	(b)	3.7
Dry		(a) (b)	10.4

REAR AXLE

All Models	(a)	1.4

(a)—Only at Overhaul
(b)—Use oil level indicator for final check

COOLING SYSTEM

		Litres
6 CYLINDER—	approx.	8.5
8 CYLINDER—4.2 litre	"	12.0
5.0 litre	"	11.3

Pressure Rating of Radiator Cap .. .. 103 kPa

FUEL TANK

Sedan 63 litres.
Wagon 68 litres.

CLEARANCES AND SETTINGS

ENGINE TYPE ▶	6 CYLINDER	8 CYLINDER
DISTRIBUTOR —Point Opening (Approx) —Cam Angle Dwell	30°–34°	26°–30°
VALVE CLEARANCE —Inlet (Hot) —Exhaust (Hot)	Zero (Non Adjustable) Zero (Non Adjustable)	
SPARK PLUG GAP	1 mm	

CARBURETTOR MIXTURE

The mixture control of the carburettor has been sealed and the idling speed set to comply with the Australian Design Rules. The reason for this is to conform to anti-pollution measures.

Your GMH Dealer has the full information concerning the foregoing.

FUSE SYSTEM

FUSES

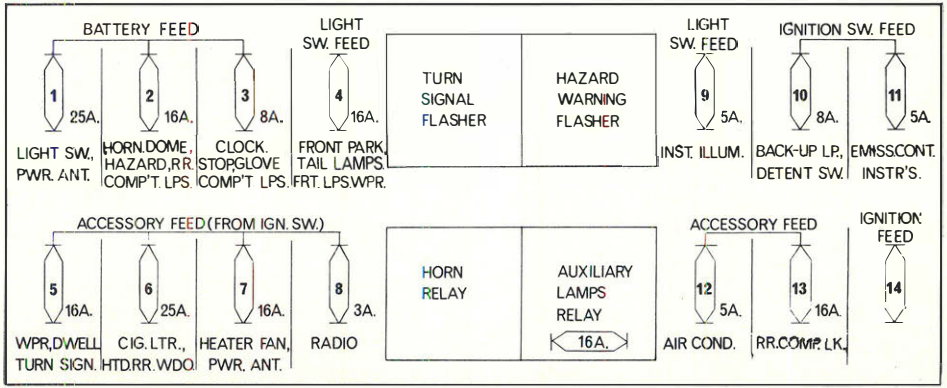
The fuse block is located behind a flush fitting plastic cover at the lower right hand corner of the instrument panel, adjacent to the hood release. To gain access to the fuses remove the cover by using the recess provided. The fuses can be identified by referring to the fuse layout on the reverse side of the cover.
If after replacing a burnt-out fuse, the new fuse burns out, this indicates that the fuse is still overloaded. The cause of the fault should be located and rectified, preferably by a GMH Dealer.

FUSIBLE LINK

In order to reduce the possibility of a fire, whether due to electrical causes or an accident, the wiring harness is protected by the inclusion of a fusible link, located in the harness next to the starter motor. In case of a short circuit, the link will melt internally, disconnecting the battery by the fusing action. The encasing insulation has been specially designed to withstand the temperature and to contain the fused wires. Thus the fusible link provides a combined fuse and fire protection feature.

THERMAL CIRCUIT INTERRUPTOR

The headlamp circuit is protected by a thermal interruptor incorporated in the lighting switch. If the current load is excessive, due to a short circuit for example, contact points in the interruptor open and close rapidly thus making and breaking the circuit, and so reducing the current sufficiently to prevent damage to the wiring. This action continues until the fault is eliminated. During this action of the interruptor there is usually sufficient light maintained to enable the vehicle to be driven to the nearest service station. If the interruptor does come into action the cause should be located and the trouble rectified as soon as possible.



HEADLAMP AND BULB SPECIFICATIONS

BULBS	GMH Part Number	Power Rating
Headlamps	11071361	55/60 watt
Parking (Front)	11051209	4 watt
Turn Signal	11062779	21 watt
Back-up Lamp	11062779	21 watt
Stop and Tail	11062789	25/6 watt
Engine Compartment Lamp	11030669	10 watt
Rear Compartment Lamp	11030669	10 watt
Number Plate Lamp	11047259	10 watt
Automatic Transmission Selector	11062449	2 C.P.
Cigarette Lighter Illumination	11062449	2 C.P.
Clock Illumination	11062449	2 C.P.
Power Antenna Switch Illumination	11062449	2 C.P.
Heated Rear Window Switch Illumination	11062449	2 C.P.
Battery Warning Lamp	9417561	2 C.P.
All Other Warning Lamps	VS 14110	2 C.P.
Turn Signal Indicator	11062449	2 C.P.
Dome Lamp (8VK and 8VL)	11030669	10 watt
Dome Lamp (8VX)	9414045	12 C.P.
Front Seat Reading Lamps (8VX)	455136	15 watt
Rear Seat Reading Lamps (8VX)	SP 1932	5 watt
Glove Box	11015639	5 watt

HTR
ASH TRAY
BACK UP

SECTION—7 OWNER RELATIONS

The satisfaction and goodwill of all owners of General Motors-Holden's products are of primary concern to your Dealer and General Motors-Holden's. Normally, any problems that arise in connection with the sales transaction or the operation of your vehicle will be handled by your Dealer's Sales or Service Departments. It is recognized, however, that despite the best intentions of everyone concerned, misunderstandings may sometimes occur. If you have a problem that has not been handled to your satisfaction, through normal channels, we suggest that you take the following steps:—

Step One—Discuss your problem with a member of dealership management. Frequently, complaints are the result of a breakdown in communications which should be quickly resolved. If the problem has already been reviewed with the Sales Manager or Service Manager of the Dealership, contact the General Manager, or the Dealer Operator.

Step 2—Should it appear that your problem cannot be readily resolved by the dealership without additional assistance, the matter can be brought to the attention of the Zone Owner Relations Manager in your State.

LETTERS SHOULD BE ADDRESSED TO "The Zone Owner Relations Manager" at one of the following locations.

When writing, it greatly assists if you provide the following information:—

YOUR NAME, ADDRESS, TELEPHONE NUMBER
*VEHICLE MODEL and V.I.N.
*VEHICLE DELIVERY DATE AND ODOMETER READING
DEALER'S NAME AND LOCATION
NATURE OF PROBLEM

*N.B. THIS INFORMATION IS READILY AVAILABLE FROM YOUR WARRANTY CERTIFICATE.

QUEENSLAND
General Motors-Holden's Sales Pty. Ltd.,
Box 728, G.P.O.,
BRISBANE, QLD. 4001.

NEW SOUTH WALES AND AUSTRALIAN CAPITAL TERRITORY
General Motors-Holden's Sales Pty. Ltd.,
Box 4239, G.P.O.,
SYDNEY, N.S.W. 2001.

VICTORIA AND TASMANIA
General Motors-Holden's Sales Pty. Ltd.,
Box 1273L, G.P.O.,
MELBOURNE, VIC. 3001.

SOUTH AUSTRALIA AND NORTHERN TERRITORY
General Motors-Holden's Sales Pty. Ltd.,
Box 96, P.O.,
ELIZABETH, S.A. 5112.

WESTERN AUSTRALIA
General Motors-Holden's Sales Pty. Ltd.,
P.O. Box 426,
WEST PERTH, W.A. 6005.

Step Three—In the unlikely event that after contacting the Zone Owner Relations Manager you are not satisfied, you have another avenue of approach which is, to write to the **National Owner Relations Manager, General Motors-Holden's Sales Pty. Ltd., P.O. Box 5431 C.C., Melbourne, Victoria 3001.**

However, if you contact the Zone or the National Owner Relations Manager, please bear in mind that ultimately the problem will be resolved in the dealership, utilizing the Dealer's facilities, equipment, and personnel. It is suggested, therefore, that you follow the above steps in sequence when pursuing a problem.

SECTION — 8 AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

QUEENSLAND—METROPOLITAN DEALERS & *SERVICE DEALERS

ASPLEY
Zupp (Aspley) Pty. Ltd.,
1442 Gympie Road

ALBION
Bill Harrison Car Sales
6 Crosby Road

MOOROOKA
John Sivyer Pty. Ltd.,
1606 Ipswich Road

MT. GRAVATT
Zupps Motors Pty. Ltd.,
1310 Logan Road

NEWSTEAD
Eagers Retail Pty. Ltd.,
95 Breakfast Creek Road

NUNDAH
Eagers (Northside),
Cnr. New Sandgate Road and Wood Street

OXLEY
Wayne Hill Holden
2193 Ipswich Road

REDCLIFFE
Kevin Healy Motors,
425 Elizabeth Avenue

STONES CORNER
Keith Leach Holden,
456 Logan Road

WINDSOR
Leach Motors,
Newmarket Road

WOOLOONGABBA, South Brisbane
Eagers (Southside),
Cnr. Logan Road and Trafalgar Street

WYNNUM
G. & B. Holden,
200 Tingal Road

VALLEY
Eagers Retail Pty. Ltd.,
Ann and Marshall Streets

AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

QUEENSLAND—COUNTRY DEALERS & SERVICE DEALERS

- ALLORA
- ATHERTON
- AYR
- BEAUDESERT
- BEENLEIGH
- BEERWAH
- BILOELA
- BOWEN
- BUNDABERG
- CABOOLTURE
- CAIRNS
- CALOUNDRA
- CHARLEVILLE
- CHARTERS TOWERS
- CHINCHILLA
- CLERMONT
- CLEVELAND
- CLONCURRY
- COOLANGATTA
- CUNNAMULLA
- DALBY
- DIRRANBANDI
- EMERALD
- GATTON
- GAYNDAH
- GLADSTONE
- GOONDIWINDI
- GYMPIE
- HUGHENDEN
- INGHAM
- INNISFAIL
- IPSWICH
- JANDOWAE
- JULIA CREEK
- KILCOY
- KINGAROY
- LAIDLEY
- LONGREACH
- MACKAY
- MAREEBA
- MARYBOROUGH
- MILES
- MITCHELL
- MONTO
- MOURA
- MT. ISA
- MURGON
- NAMBOUR
- NANANGO
- PETRIE
- PROSERPINE
- QUILPIE
- ROCKHAMPTON
- ROMA
- SOUTHPORT
- SPRINGSURE
- STANTHORPE
- ST. GEORGE
- TARA
- TEXAS
- TOOWOOMBA
- TOWNSVILLE
- TULLY
- WARWICK
- WINTON
- YULEBA

AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

NEW SOUTH WALES—METROPOLITAN DEALERS

ARNCLIFFE
Suttons Motors (Arncliffe) Pty. Ltd.,
93 Princes Highway

ASHFIELD
Muirs Motors (Ashfield) Pty. Ltd.,
252 Parramatta Road

AUBURN
Sturgess Holden
235 Parramatta Road

BALGOWLAH
Ross Hannon Holden
164 Condamine Street

BANKSTOWN
Boyded Bankstown
236-242 South Terrace

BAULKHAM HILLS
Tony Packard Holden
Cnr. Victoria Avenue & Windsor Road

BLACKTOWN
Mitchell & Townsend,
125 Main Street

CABRAMATTA
Ron Hodgson Holden
266 Hume Highway

CAMPBELLTOWN
Clintons Motors Pty. Ltd.,
3-17 Queen Street

CAMPERDOWN
John A. Gilbert Pty. Ltd.,
36-38 Parramatta Road

CHATSWOOD
Sundell Holden
815-843 Pacific Highway

CHULLORA
Suttons Motors (Chullora) Pty. Ltd.,
Cnr. Hume Highway & Waterloo Road

CROW'S NEST
J. N. Caldwell (Holdings) Pty. Ltd.,
1 Alexander Street

DEE WHY
Norman G. Booth (Dee Why) Pty. Ltd.,
Cnr. May and Mooramba Roads

HOMEBUSH
Gilbert & Roach Pty. Ltd.,
187 Parramatta Road

HOMEBUSH
Suttons Motors (Homebush) Pty. Ltd.,
112 Parramatta Road

HURSTVILLE
Nyhus Holden
412 Forest Road

KINGSFORD
John Pelligrini Holden
263-271 Anzac Parade

KINGSWOOD
Max Wright Motors Pty. Ltd.,
107-119 Great Western Highway

LAKEMBA
Nash Holden
1018 Canterbury Road

LIVERPOOL
A. C. McGrath & Company,
Cnr. Castlereagh St. & Hume Highway

LIVERPOOL
Pat Cullen's Garage,
324-360 Hume Highway

MIRANDA
W. H. Lober & Co. Pty. Ltd.,
1-3 Kiora Road

MOSMAN
Norman G. Booth Pty. Ltd.,
501 Military Road

NEWPORT BEACH
Sundell Motors Pittwater Pty. Ltd.,
Barrenjoey Road

PADSTOW
Paul Bagnall Holden
19 Davies Road

PARRAMATTA
Fair Deal Car Sales Pty. Ltd.,
65 Church Street

PARRAMATTA
Hillsdon's Pty. Ltd.,
87 Church Street

PENNANT HILLS
L. W. Vagg & Co. Pty. Ltd.,
351-355 Pennant Hills Road

RANDWICK
Boyded (Randwick),
265 Avoca Street

ROCKDALE
C. V. Holland Pty. Ltd.,
571 Princes Highway

ROSE BAY
Vern Potts,
505-509 Old South Head Road

RYDE
Muirs Motors (Ryde) Pty. Ltd.,
603-605 Victoria Road

ST. MARY'S
Lance Motors Pty. Ltd.,
412 Western Highway

WAITARA
John A. Gilbert (Northside) Pty. Ltd.,
90 Pacific Highway

WINDSOR
Hawkesbury Valley Motors,
122 George Street.

AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

NEW SOUTH WALES—COUNTRY DEALERS & *SERVICE DEALERS

- ADELONG
- ALBURY
- ARDLETHAN
- ARMIDALE
- BALLINA
- BARADINE
- BARELLAN
- BARHAM
- BARRABA
- BATHURST
- BEGA
- BELLINGEN
- BELMONT
- BLAYNEY
- BOGGABRI
- BOMBALA
* BOOROWA
- BOURKE
- BOWRAL
- BREWARRINA
- BROKEN HILL
- BULAHDELAH
- CANOWINDRA
- CASINO
- CESSNOCK
- COBAR
- COFF'S HARBOUR
- COLLARENEBRI
- CONDOBOLIN
* COOLAH
- COOLAMON
- COOMA
- COONABARABRAN
- COONAMBLE
- COOTAMUNDRA
- COROWA
- COWRA
- CROOKWELL
- CULCAIRN
- DENILIQUIN
- DORRIGO
- DUBBO
- DUNGOG
* EDEN
* EUGOWRA
- FINLEY
- FORBES
- GILGANDRA
- GLEN INNES
- GLOUCESTER
- GOSFORD
- GOULBURN
- GRAFTON
- GRENFELL
- GRIFFITH
- GULARGAMBONE
- GUNDAGAI
- GUNNEDAH
- GUNNING
- GUYRA
- HARDEN
- HAY
- HOLBROOK
- INVERELL
- JERILDERIE
- JUNEE
- KANDOS
- KATOOMBA
- KEMPSEY
- KIAMA
- KURRI KURRI
- KYOGLE
- LAKE CARGELLIGO
- LEETON
- LISMORE
- LITHGOW
- MACKSVILLE
- MAITLAND
- MILTON
- MOLONG
- MOREE
- MORUYA
- MOSS VALE
- MUDGEE
- MULLUMBIMBY
- MUNGINDI
- MURWILLUMBAH
- MUSWELLBROOK
- NARRABRI
- NARRANDERA
- NARROMINE
- NEWCASTLE
- NOWRA
- NYNGAN
- ORANGE
- PARKES
- PEAK HILL
- PICTON
- PORT MACQUARIE
- QUEANBEYAN
- QUIRINDI
- SCONE
- SINGLETON
- SPRINGWOOD
- TAMWORTH
- TAREE
- TEMORA
- TENTERFIELD
- TORONTO
- TOTTENHAM
- TRANGIE
* TRUNDLE
- TULLAMORE
- TUMBARUMBA
- TUMUT
- TWEED HEADS
* UNGARIE
- WAGGA
- WALCHA
- WALLA WALLA
- WALGETT
- WARIALDA
* WARILLA
- WARREN
- WAUCHOPE
- WELLINGTON
- WEST WYALONG
- WINGHAM
- WOLLONGONG
- WOODENBONG
- WYONG
- YASS
- YOUNG

AUSTRALIAN CAPITAL TERRITORY—DEALERS

- CANBERRA (SUBURBAN LOCATIONS)
  BELCONNEN — BRADDON — PHILLIP

AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

VICTORIA—METROPOLITAN DEALERS

BENTLEIGH
Noel Gould Bentleigh Pty. Ltd.,
280 Centre Road

BERWICK
Noel Gould Berwick Pty. Ltd.,
Princes Highway

BALWYN
Southern Motors (Box Hill) Pty. Ltd.,
126 Whitehorse Road

BRAYBROOK
Kevin Dennis Holden
272 Ballarat Road

BROOKLYN
W. H. & S. Massey Pty. Ltd.,
708 Geelong Road

BUNDOORA
Watson Holden
413 Grimshaw Street

BURWOOD
Dustings Pty. Ltd.,
1200 Toorak Road

CAULFIELD
Booran Holden
1049 Glenhuntly Road

CHELSEA
Ron Morphy Holden
370 Nepean Highway

CHELTENHAM
Balmoral Holden
1212 Nepean Highway

DANDENONG
Bill Patterson-Cheney Dandenong Pty. Ltd.,
141 Lonsdale Street

DANDENONG
Preston Motors (Dandenong) Pty. Ltd.,
Princes Highway

DONCASTER
Lance Dixon Holden
601 Doncaster Road

ELSTERNWICK
Reg. Hunt Holden
77 Nepean Highway

ESSENDON
Preston Motors (Essendon) Pty. Ltd.,
207-211 Keilor Road

FAWKNER
M. S. & G. Mantello Holden
1263 Sydney Road

FERNTREE GULLY
Neilson Motors Pty. Ltd.,
980 Burwood Road

FOOTSCRAY
Preston Motors (Footscray) Pty. Ltd.,
435 Barkly Street

FRANKSTON
Bayside Holden
54 Playne Street

GLEN WAVERLEY
Geoff Brady Holden
565-577 Springvale Road

HASTINGS
Dustings of Hastings
762 Hastings Road

HEIDELBERG WEST
Northpoint Holden
66 Bell Street

HOPPERS CROSSING
Edward John Holden
Princes Highway

LILYDALE
Noel Dight Holden
Main Street

MORNINGTON
Peninsula Holden
Cnr Nepean Highway & Tyabb Road

OAKLEIGH
Garry & Warren Smith Pty. Ltd.,
1575 Dandenong Road

PRESTON
Campbell's Motors Pty. Ltd.,
518 High Street

RINGWOOD
Bill Patterson—Ringwood Holden
45-57 Maroondah Highway

SOUTH MELBOURNE
Bill Patterson-Cheney Melbourne Pty. Ltd.,
16-50 Sturt Street

SOUTH MELBOURNE
John Martin Holden
132 Sturt Street

WARRANDYTE
Getson Holden
Yarra Street

WERRIBEE
Ballan Holden
Princes Highway

WEST MELBOURNE
Reg Hunt Motors Pty. Ltd.,
577 King Street

YARRAVILLE
W. H. & S. Massey Pty. Ltd.,
377 Williamstown Road

AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

VICTORIA—COUNTRY DEALERS & *SERVICE DEALERS

- ALEXANDRA
* APOLLO BAY
- ARARAT
- BACCHUS MARSH
- BAIRNSDALE
- BALLARAT
- BENALLA
- BENDIGO
* BERRIWILLOCK
- BIRCHIP
- BOORT
- CAMPERDOWN
- CASTERTON
- CASTLEMAINE
- CHARLTON
- COBRAM
- COHUNA
- COLAC
- COLERAINE
- CORRYONG
* COWES
- DAYLESFORD
- DERRINALLUM
- DIMBOOLA
- DONALD
- DROUIN
- ECHUCA
- EUROA
- FOSTER
- GEELONG
- HAMILTON
- HEALESVILLE
- HEATHCOTE
- HOPETOUN
- HORSHAM
- JEPARIT
- KANIVA
- KERANG
- KOOWEERUP
- KORUMBURRA
- KYABRAM
- KYNETON
- LANG LANG
- LEONGATHA
- MAFFRA
- MANSFIELD
- MARYBOROUGH
- MILDURA
- MINYIP
- MOE
- MORTLAKE
- MORWELL
- MURRAYVILLE
- MYRTLEFORD
- NAGAMBIE
* NATHALIA
- NHILL
- NULLAWIL
- NUMURKAH
- NYAH
* OMEO
- ORBOST
- OUYEN
* PORT FAIRY
- PORTLAND
* PYRAMID HILL
- QUAMBATOOK
- RAINBOW
- ROCHESTER
- RUTHERGLEN
- SALE
- SEA LAKE
- SEYMOUR
- SHEPPARTON
- ST. ARNAUD
- STAWELL
- SWAN HILL
- TALLANGATTA
- TERANG
- TIMBOON
- TRARALGON
- UNDERBOOL
- WANGARATTA
- WARBURTON
- WARRACKNABEAL
- WARRNAMBOOL
- WODONGA
- WONTHAGGI
- WYCHEPROOF
- YARRAM
- YARRAWONGA

TASMANIA—METROPOLITAN & COUNTRY DEALERS & SERVICE DEALERS

HOBART — **Nettlefold Car & Truck Pty. Ltd.,**
179 Macquarie Street

HOBART — **Motors Pty. Ltd.,**
179 Macquarie Street

BURNIE — **Motors Pty. Ltd.,**
54 Marine Terrace

DEVONPORT — **Motors Pty. Ltd.,**
24 Best Street

HUONVILLE — **Motors Pty. Ltd.,**
Main Street

KING ISLAND — **King Island Motors,**
Currie

LAUNCESTON — **Motors Pty. Ltd.,**
165 Brisbane Street

LAUNCESTON — **Nettlefold Car & Truck Pty. Ltd.,**
71 Bathurst Street

SMITHTON — **Smithton Motors Pty. Ltd.,**
16 Nelson Street

ULVERSTONE — **Motors Pty. Ltd.,**
99 Reibey Street

AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

SOUTH AUSTRALIA—METROPOLITAN DEALERS

ADELAIDE
Freeman Motors Limited,
215 Grenfell Street

ADELAIDE
United Motors Limited,
72 Franklin Street

ELIZABETH
Peter Page Holden,
Elizabeth Way

GAWLER
John Doran Pty. Ltd.,
48 Murray Street

GLENELG
John H. Ellers Pty. Ltd.,
282 Brighton Road

MALVERN
Claridge Motors Pty. Ltd.,
361-367 Unley Road

MORPHETT VALE
Coleton Motors Pty. Ltd.,
345 Main Road South

PORT ADELAIDE
Smith Motor Co. Pty. Ltd.,
171 Commercial Road

VALLEY VIEW
Plaza Holden,
817-839 North East Road

SOUTH AUSTRALIA—COUNTRY DEALERS & *SERVICE DEALERS

- ARDROSSAN
- BALAKLAVA
- BERRI
- BORDERTOWN
- BRINKWORTH
- BURRA
- CLARE
- CLEVE
- CRYSTAL BROOK
- CUMMINS
- GLADSTONE
- JAMESTOWN
- KADINA
- KEITH
- KIMBA
- KINGSCOTE
- KINGSTON
- LAMEROO
- LOXTON
- MAITLAND
- MALLALA
- MANNUM
- MANOORA
- MENINGIE
- MILLICENT
- MINLATON
- MT. BARKER
- MT. GAMBIER
- MURRAY BRIDGE
- NARACOORTE
- ORRORoo
- PETERBOROUGH
- PINNARO
- PORT AUGUSTA
- PORT LINCOLN
- PORT PIRIE
- QUORN
- RENMARK
- SEDAN
- STRATHALBYN
- STREAKY BAY
- TANUNDA
- * TUMBY BAY
- VICTOR HARBOR
- WAIKERIE
- WHYALLA
- WUDINNA
- YANKALILLA

NORTHERN TERRITORY—DEALERS

ALICE SPRINGS
Kittle Bros. (Alice Springs) Pty. Ltd.,
Wills Terrace

DARWIN
Suttons Motors (Darwin) Pty. Ltd.,
Cnr. Mitchell and Knuckey Streets

AUTHORISED GMH DEALERS

EFFECTIVE 20/10/78

WESTERN AUSTRALIA—METROPOLITAN DEALERS

BELMONT
Major Motors Pty. Ltd.,
225 Great Eastern Highway

CANNINGTON
Brian Gardner Motors Pty. Ltd.,
1308 Albany Highway

FREMANTLE
Shack Motors,
59 Queen Victoria Street

GOSNELLS
Lance Gibbons Holden,
2325 Albany Highway

MELVILLE
Melville Motors Pty. Ltd.,
532-536 Canning Highway

MIDLAND
Webster Holden,
37 Great Northern Highway

MORLEY
Metro Motors Pty. Ltd.,
212 Walter Road

NAVAL BASE
SHACK MOTORS Cockburn Pty. Ltd.,
Rockingham Road

OSBORNE PARK
North City Pty. Ltd.,
Cnr. Scarborough Beach Rd. & Harbourne St.

PERTH
Attwood's Holden,
22 Stirling Street

PERTH
City Motors Pty. Limited,
505 Newcastle Street

PERTH
Sydney Atkinson Motors Limited,
20 Terrace Drive

VICTORIA PARK
Young's W.A. (1975) Pty. Ltd.,
529 Albany Highway

WESTERN AUSTRALIA—COUNTRY DEALERS & *SERVICE DEALERS

- ALBANY
- BEVERLEY
- BODDINGTON
- BOYUP BROOK
- BROOKTON
- BROOME
- BRUCE ROCK
- BUNBURY
- BUSSELTON
- CARNAMAH
- CARNARVON
- COLLIE
- CORRIGIN
- CRANBROOK
* DALWALLINU
- DENMARK
- DERBY
- ESPERANCE
* EXMOUTH
- GERALDTON
- GNOWANGERUP
- GOOMALLING
- HARVEY
- KALGOORLIE
- KAMBALDA
- KARRATHA
- KATANNING
- KELLERBERRIN
- KULIN
- KUNUNURRA
- MANDURAH
- MANJIMUP
- MERREDIN
- MOORA
- MORAWA
- MT. BARKER
- MULLEWA
- NAREMBEEN
* NORSEMAN
- NORTHAM
- PINGELLY
- QUAIRADING
* SOUTHERN CROSS
- WAGIN
- WONGAN HILLS
- WYALKATCHEM

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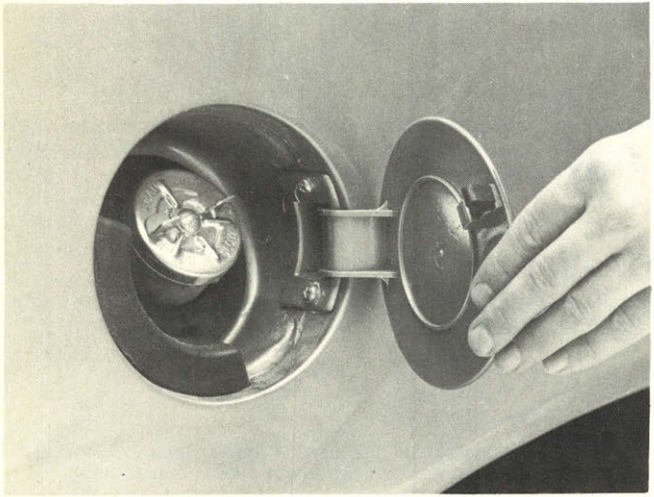
SECTION—10 SERVICE STATION INFORMATION

FUEL FILLER CAP

NOTE: If this cap requires a replacement, only a cap with the same features should be used. Failure to use the correct cap can result in a serious malfunction of the fuel system. Correct replacement caps may be obtained from your GMH Dealer.

LOCATION

The fuel filler is located above and behind the rear wheel arch on the drivers side. A flap conceals the removable cap and a rubber protection ring surrounds the filler recess to prevent paint damage.



FUEL REQUIREMENT

The vehicle is designed to operate on a good quality clean fuel.

The major Australian Oil Companies produce their petrol according to the following ratings.

Regular (Std.) Grade: 89 Petrol Research Octane Rating.

Premium (Super) Grade: 98 Petrol Research Octane Rating.

(Refer to page 90 for the correct octane rating for your vehicle's engine.)

CAUTION: Petrol is extremely inflammable and highly explosive under certain conditions. Always stop the engine and do not smoke or allow open flames or sparks near the vehicle when refuelling. If petrol fumes are noticed while driving, the cause should be determined and corrected without delay.

FILLING THE FUEL TANK

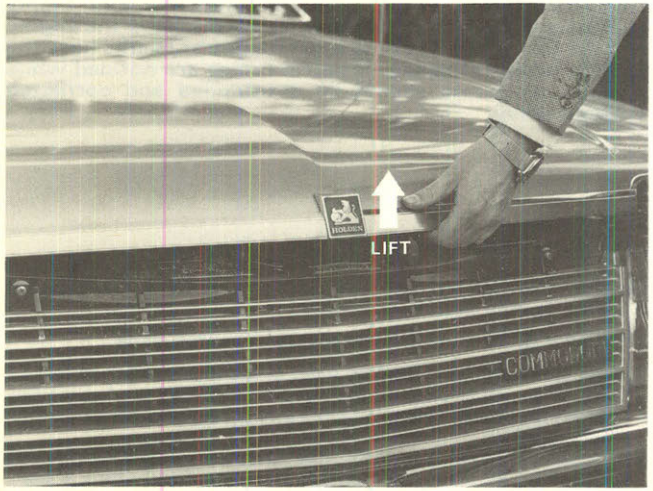
Overfilling of the fuel tank can adversely affect the evaporative Emission Control System.

To avoid this, the following recommendations are made:

1. Fuel tanks should always be filled at the intermediate or fast fill rate. After initial shut-off (or vent blow back) no further fuel should be added. This retains the tank's ability to accommodate fuel expansion.
2. It is permissible to "trickle fill" fuel tanks where vehicles are to be driven for a distance of at least 50 km shortly after the tank is filled.

ENGINE HOOD LOCK AND CATCH

The hood lock is operated in two steps by means of a release lever or handle and a separate safety catch.
To open the engine hood, pull hood lock release handle located beneath the instrument panel, to the right of the steering column. This allows the hood to release but is prevented from opening by the safety catch. To open completely, reach in between the grille and hood to lift safety catch upward. Hold in this position, raise hood and support by inserting support rod into the provided slot.
For closing, return support rod to its resting position and lower hood gradually to be finally dropped by its own weight.
Always check to make certain hood is properly secured. If necessary check that release handle below the instrument panel is pushed-in to its normal position.



ENGINE OIL DIPSTICK

Check the oil level as the last operation when stopped for fuel. Maintain oil level between ADD and FULL marks on the dipstick. (Refer to Section 5.)

RADIATOR COOLANT LEVEL

The vehicle has a coolant recovery bottle as standard equipment. Topping up the fluid should be carried out by filling the bottle to the correct level as indicated on the bottle. (Refer page 74.)
Maintain the level above the ADD mark on the coolant recovery bottle. (Refer page 74 for further notes.)

BATTERY

Check electrolyte fluid level weekly. If the fluid level is low, add distilled water to bring level to approximately 1 cm above the plates. (Refer to page 76 for additional information.)

WINDSHIELD WASHER

Check reservoir fluid level weekly. Use a washer fluid additive such as Optikleen. (Refer to page 77 for further notes.)

TYRE PRESSURES

Check pressures weekly and adjust as needed. Refer to Tyre Placard located on the inside of the instrument panel compartment.

PREVENTING THE THEFT OF YOUR VEHICLE OR ITS CONTENTS

Your vehicle is a valuable piece of property which should be carefully guarded. The Police Departments in the respective States are endeavouring to protect your property.

Your help is needed, and your attention to the following suggestions is solicited:

1. Make sure your ignition key is removed when leaving your vehicle unattended, even in your own garage.
2. Close all windows and lock all doors when your vehicle is not in use.
3. Do not leave valuables in your vehicle where they will be easily seen and may attract unwarranted attention.
4. Never leave valuables or personal belongings in your vehicle overnight.